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DIESEL INDEX

An index to THE RAILWAY GAZETTE, Diesel Railway Traction Supplement covering the issues from January to December, 1945, has been prepared, and is now available free of charge on application to the Publisher.

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays, 9.30 a.m. till 5.30 p.m.
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

F.B.I. on National Financial Policy

THE Federation of British Industries has addressed a statement on National Financial Policy to the Chancellor of the Exchequer. The statement has had the unanimous approval of the Grand Council of the F.B.I. and in it the Chancellor's decision to achieve the objective of a Budget balance over a number of years, rather than rigidly year by year, is welcomed. It also suggests that the Budget should distinguish between capital account and revenue and expenditure account, a principle which is followed in business and which previously has been suggested for the national accounts. The F.B.I. makes clear that in putting forward the suggestion, the capital account should not be used as a means of masking a revenue account deficit. The F.B.I. also urges that the financial results of nationalised enterprises should be separated from the general Budget and drawn up on a commercial basis in accordance with accepted accounting principles. They should be reported on by independent qualified auditors and they should provide their fair contribution to the national finances. Unless this principle is adopted, those sections of industry left under private ownership and the general taxpayer will be called on to bear a greater burden of taxation. Another point made by the F.B.I. is that the Excess Profits Tax should be abolished because it discourages production and tends to waste and inefficiency. It opposes the imposition of any tax specifically falling on business profits as a substitute to E.P.T. if the latter should be removed.

Mr. Herbert Morrison on Nationalisation Again

During his visit to Canada, Mr. Herbert Morrison seems to be continuing his British role of chief propagandist for nationalisation. In Toronto recently he dealt with the British Government's aims and motives in its schemes for nationalisation. He said that it was up to the nationalists to prove their case that there would be public advantage by nationalisation. So far there has been singularly little endeavour by the Government of which Mr. Morrison is a member to prove any such thing. He added that it was no less up to the anti-nationalisers to prove their case that the public interest could be served best by private ownership. This suggests that some reversal is taking place in the well-tried British maxim that a person is innocent until proved guilty of the charge brought against him. Mr. Morrison went on to say that although the British Government would not be slavish in following a precise model, in general the nationalised industries would not be managed by State departments or civil servants. Public corporations would be set up, in charge of boards composed of men appointed because they were qualified to do a technical job with efficiency, imagination and enterprise in the public interest. The general basis of selection would be on the lines of the Coal Bill now before Parliament. Last week we referred to some clouds on the railway staff horizon resulting from the terms of the Coal Industry Nationalisation Bill. Mr. Morrison's statement is not likely to make pleasant reading for permanent officials of the Ministry of War Transport who may be looking forward to the prospect of running the railways.

Railway Air Appointments

On another page we give a list of appointments by the Air Committee of the British railways, consequent on the resignation of Sir Harold Hartley of his directorships in the rail-air group of companies and of the Chairmanship of Associated Airways Joint Committee. This latter body operates the companies' internal air network by agreement with the Ministry of Civil Aviation. Mr. J. Elliot, Deputy General Manager, Southern Railway, and Chairman, Great Western & Southern Air Lines Limited, becomes Chairman of Associated Airways Joint Committee and of the railways' Air Committee; Mr. K. W. C. Grand, Assistant General Manager, G.W.R., and Chairman, Channel Islands Airways Limited, becomes Chairman of Olley Air Services Limited; Air Commerce Limited, and Air Booking Limited; Mr. G. Morton, Chief Accountant, L.M.S.R., becomes Chairman of Railway Air Services Limited; Mr. G. L. Darbyshire, Vice President, L.M.S.R., becomes Chairman of West Coast Air Services Limited. In addition, Mr. H. G. N. Read, Assistant (Passenger) to Chief Commercial Manager, L.M.S.R., becomes Chairman of Isle of Man Airways Limited, in succession to Mr. W. P. Bradbury, who has

resigned. The appointments make it clear that the railways do not consider it a foregone conclusion that under the Government civil aviation plans there will be no use made of the organisation and the considerable experience in airways operation which they have built up. It would be more than strange if the Government ultimately abandoned in its entirety the fund of practical knowledge which the railways have accumulated as a result of their pioneer work. It is clear that while the Government-sponsored corporations are being laboriously hatched, the railways have in existence and are keeping fully up-to-date their civil aviation organisations.

Overseas Railway Traffics

The weekly traffic receipts of the Argentine railways continue steadily upward, but so far the aggregates fall short of the 10 per cent. increase in tariffs on which the companies are now operating. The Buenos Ayres & Pacific system is now beginning to benefit substantially from the increase in tariffs, the lag hitherto experienced having been caused, as mentioned by the Chairman at the annual meeting held in London recently, by the inability to move large accumulations of grain in the hinterland which were held back because of operating obstacles, particularly in the supply of locomotive fuels and the shortage of wagons. The receipts up to the end of 26th week of the current year are as under:—

	No. of week	Weekly traffics £	Inc. or dec. £	Aggregate traffic £	Inc. or dec. £
Buenos Ayres & Pacific ...	26	2,552,000	+362,000	55,143,000	+2,806,000
Buenos Ayres Great Southern ...	26	3,901,000	+226,000	83,393,000	+362,000
Buenos Ayres Western ...	26	1,212,000	+101,000	30,541,000	+1,582,000
Central Argentine ...	26	3,194,550	+80,150	79,130,950	+5,427,300
		£	£	£	£
Canadian Pacific ...	52	1,527,400	-20,800	63,221,800	-552,400

The Canadian Pacific net earnings for the eleven months ended November show a decrease of £1,114,600 and the net earnings of the Canadian National Railways, for the same period, show an increase of £175,000.

Iron and Steel Export Orders

The December bulletin of the Iron & Steel Control shows that the United Kingdom output for the last month of the year was at the annual rate of 11,500,000 tons, and the rate for the fourth quarter averaged 12,300,000 tons, or slightly more than the 12,127,000 tons for the first quarter of the year. Production during the final quarter was about 1,000,000 tons more than the average pre-war year (1935-38). Exports increased steadily during 1945; in the first quarter they were at the rate of 188,000 tons, and in the second quarter of 394,000 tons. From a rate of 824,000 tons in the third quarter, they reached the rate of 1,200,000 tons for the final three months. Exports of finished steel products for 1945 were approximately 750,000 tons. This last figure is satisfactory, when it is borne in mind that two of the largest export sections, tinplate and sheet, were not able to participate to any material extent, largely because of shortage of labour. Although exports commenced on January 1, 1945, the rate of output had to be restricted until the end of the war, and the results achieved, therefore, relate largely to a six months' period. The continuation of expanding steel exports can be realised only if a considerable improvement takes place in the shipping position. Considerable quantities of steel have been held up, awaiting shipment, and this was made worse by the dock strike. The accumulation of export orders is shown by the fact that the order books of the industry at the end of 1945 showed orders on hand for direct exports of 585,700 tons, as compared with 76,800 tons a year earlier.

British Gauge and Tool Makers Achievements

Before the war this country was very largely dependent on overseas sources for its supplies of fine measuring tools, particularly such as Vernier instruments and micrometers, of which some 50 per cent. were obtained from overseas. It is a tribute to the industry that during the war Great Britain became independent of foreign supplies, and the industry, which expanded to something like ten times its pre-war volume, was able to provide more than 95 per cent. of the wartime requirements of these tools. The Gauge & Tool Makers' Association sent a party to Germany recently which

was able to report that the British industry was fully abreast of the Germans in the technique of this branch of engineering—an excellent tribute to the progress made in recent years. Mr. John Wilmot, M.P., Minister of Supply & Aircraft Production, opening the Gauge & Tool Makers' Exhibition in London last week, pointed out that it was important that British engineers should make the greatest possible use of the equipment which the gauge and toolmakers of this country could provide, so as to improve the quality of British engineering goods for export, and make the best use of available labour. He paid a tribute, too, to the President of the Association, Mr. H. H. Harley, and his son, Mr. S. J. Harley. During the war period, Mr. Harley, senior, had been a tower of strength to the gauge and tool industry, and Mr. Harley, junior, had for long been Director of Jigs, Tools & Gauges in the Ministry of Supply, and was now Technical Controller in the Machine Tool Control.

I.L.O. Transport Committee Resolutions

When the Inland Transport Committee of the International Labour Office met in London from December 13 to 20, under the Chairmanship of Mr. Henri Hauck, a French Government representative, it was attended by 120 representatives of Governments, employers, and workers from 23 countries. The work of the meeting was divided between three sub-committees, which dealt with railways, road transport, and other forms of transport respectively. The proposals of the three sub-committees were combined in a series of resolutions by a co-ordinating committee. The most urgent problem was considered to be the speedy reconstruction of the inland transport systems of the various countries, and recommendations were adopted stressing the need for full international co-operation; the intensification of national and international action to secure the maximum production and interchange of supplies for reconditioning the inland transport systems; and a general plan for the repair of damage to the transport systems of Europe. The need to encourage improvement of industrial relations and for joint voluntary negotiating machinery for the conclusion of collective agreements was also urged. A further resolution asked that the International Labour Office should collect and distribute all available current information on a number of matters affecting inland transport, such as wages, social security, the law and practice of industrial relations, hours of work, the employment of women and children in inland navigation, and safety precautions.

L.N.E.R. Train Service Delays

In an endeavour to ascertain the reasons behind the recent late running of trains, *The Sunday Express* has approached each of the four main-line railway companies, with a request for the running schedules of their chief trains during a complete week, excluding Sunday. The first of these schedules was published by *The Sunday Express* last week-end. It related to the L.N.E.R., which had had a bad week because of the Ferryhill accident, and covered a period from January 4 to 11, excluding January 6. We reprint the schedule elsewhere in this issue. In our view, the L.N.E.R. is to be congratulated on placing the facts frankly before the public, and in giving the reasons for the delays which have occurred to a number of its principal trains. Apart from the disorganisation arising from the Ferryhill accident, the principal causes of bad time-keeping have been those to which we drew attention in our issue of January 11—that is to say, the wear on mechanical equipment arising from the stress of wartime operation, without the maintenance and renewal which was accorded it under the far easier conditions in peacetime working. Poor coal, resulting in locomotive steaming troubles, and permanent way repairs are mentioned in many of the reports.

More Signalling Questions and Answers

The "question and answer" meeting held by the Institution of Railway Signal Engineers on June 27, 1945, proved so successful that the Council decided to hold another one on January 4. A very large number of questions had been sent in. The Chairman at the recent discussion, Mr. L. J. Boucher,

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Assistant Signal Engineer, Southern Railway, expressed the hope that more would be forthcoming and that everyone would endeavour to assist in providing questions of practical interest. On January 4 the questions dealt with related to the merits of power frames and panels and the various power systems in themselves, the use of the British Standard Symbols on signalling plans and diagrams, and the possible replacement of level crossing gates by light signals, or the use of these signals in conjunction with gates. These were all interesting topics. Some are greatly attracted to the panel system, but others remain firmly attached to the power frame and see no sufficient grounds for abandoning it. The general use in this country of substantial gates at level crossings is not likely to give place to light signals only, as a questioner appeared to suggest might be done, and this view found strong expression. Such signals are already in use in conjunction with gates. The "question and answer" type of meeting seems likely to prove a regular and popular feature in the Institution's work.

The Reporting of Accidents

Until the war broke out the railway companies were under an obligation to report accidents in considerable detail, in accordance with the Railways (Notice of Accidents) Order, 1934, but on September 1, 1939, an amending Order was put in force with the object of reducing the amount of work involved in the process and effecting a substantial reduction and simplification, the practical effect of which was to restrict reporting to serious incidents. This had a noticeable effect on the statistics presented annually in the reports of the Chief Inspecting Officer of Railways, Sir Alan Mount, reviewed regularly in our pages. With the cessation of hostilities it was thought that the time had arrived to terminate this arrangement and revert to the previous practice. Opportunity has been taken to introduce some improvements into the method of reporting and bring the process more into line with the altered requirements of the present day, extending the definitions involved and effecting certain changes. With this object, therefore, both the 1934 and 1939 Orders have been revoked, and the Minister of War Transport has issued another, effective as from January 1, and providing the basis on which the companies are required to act henceforth. The position thus established is not materially different from that existing before the war, but injuries are classified into serious and minor, duly defined, and more bulk reporting is now permissible.

Oil-Burning Locomotives on the G.W.R.

Great interest attaches to the announcement that ten 2-8-0 tender locomotives and eight 2-8-0 tank locomotives are being converted at Swindon to burn heavy fuel oil instead of coal. Although this venture is officially regarded as an experiment, it is on a big enough scale to suggest that the G.W.R. feels confident of achieving successful results. The primary motive for this conversion is stated to be the acute coal shortage; the company hopes to save 13,000 tons of coal a year by altering these eighteen engines to burn oil. The opportunity is being taken, however, to acquire useful data, especially in regard to the time required for the preparation and servicing of locomotives when oil fuel is substituted for coal, so as to assess the extent to which economies can be effected. An account of this notable piece of work, which was arranged in conjunction with the Anglo-Iranian Oil Co. Ltd., is given elsewhere in this issue; one of its most interesting features is the completeness of the arrangements for the refuelling of the locomotives. Depots are being constructed at Llanelly and Severn Tunnel Junction, as the oil-burning trials are intended to be confined to coal and freight traffic in South Wales. It is expected that the tender engines, which can carry 1,800 gal. of oil, will run 250 miles between refuelling. The tank engines, holding only about 850 gal., will have a correspondingly limited range. Indeed it is the somewhat small fuel-oil capacity (especially of the 0-8-2 tanks), with the necessity for frequent refuelling, which seems to be the only drawback to an admirably conceived scheme; but as only freight workings are involved, it may not matter much in practice.

Unified Transport in Northern Ireland?

A WHITE Paper* issued by the Northern Ireland Ministry of Commerce states that the Government of Northern Ireland has reached the conclusion that only the merger into a single undertaking of the Road Transport Board, the Belfast & County Down Railway, the system of the Northern Counties Committee of the London Midland & Scottish Railway, and the system of the Great Northern Railway (Ireland) in Northern Ireland, offers any reasonable prospect of obtaining an efficient and solvent system of public transport. It therefore proposes, subject to the approval of Parliament, to initiate negotiations with those undertakings for the purpose of arranging such a merger.

The plan outlined resembles that which in Southern Ireland established the Irish Transport Company. Sir Roland Nugent, Minister of Commerce, has explained that the proposal is not for nationalisation and that the negotiations between the Government and the parties concerned cannot be opened until the approval of Parliament is obtained. The negotiations will involve difficult legal and financial questions and until they are complete it will not be possible to give the precise terms of the merger, nor the exact form of the constitution of the new undertaking. These details in turn will have to be approved by Parliament.

The White Paper points out that the position of the lesser railways will not necessarily be affected, but will be considered in the course of the negotiations. Both the Sligo, Leitrim & Northern Counties Railway and the Londonderry & Lough Swilly Railway are domiciled in Northern Ireland, but operate mainly in Eire. Co-operation with them, as with the Eire portion of the Great Northern Railway (Ireland) and with the County Donegal Railways Joint Committee, will be necessary, and, in the view of the Government, should be to the advantage of the companies and the communities.

The Government, in the negotiations, intends to maintain a number of points. These include: that the interest of the community shall be fully protected in the control of the general policy of the new undertaking; that the existing rights of the Belfast Corporation, of the farmers, of the Belfast and Londonderry carriers, and of certain special classes shall not be injured by the merger; that the existing rights of private owners to carry their own goods in their own vehicles shall not be affected; and that the interests of all users of public transport shall be safeguarded by an impartial tribunal empowered to hear and settle appeals in respect of rates, charges, and services.

The White Paper describes the present situation of public transport in Northern Ireland as "serious." The rights and functions of the Road Transport Board are explained, and it is pointed out that the Board "has not and has never had a monopoly of road transport." The Board "must depend for much of its traffic on providing services which are so attractive in convenience and price that the trader will use them in preference to using his own transport." At present, says the White Paper, "there are three channels of transport for the owner of a motor vehicle; he can use the vehicle, or the Road Transport Board, or the railway. The Board has to provide road transport which is necessary for those who have no other, and to compete with the owner of motor vehicles and the railways for additional traffic to cover expenses; and the railways, with a costly railway system designed to carry practically all the traffic likely to offer, have to compete with both classes of road transport. The losses, which this freedom of choice of several modes of transport involves, may be borne for a time by the proprietors of the public transport undertakings (the railway stockholders and the taxpayers), but must eventually fall on the users of transport and the community by way of reduced services and increased charges or by the collapse of the transport system."

It is recognised that this difficulty has been developing during the last twenty years: remedies have been sought in the investigations held by Sir Felix Pole, the MacLintock Committee, the late Judge Thompson, a Joint Select Committee of both Houses of Parliament, the Committee on Agriculture, presided over by Lord Justice Babington, and others. The increased volume of traffic during the war and the

* "Public Transport in Northern Ireland." Cmd. 232. H.M. Stationery Office, price 4d.

shortage of supplies of fuel and rubber, together with all the other factors tending to restrict the use of private transport, have combined to thrust business on the railways and the Road Transport Board to the limit of their capacity, and consequently to cover up the problem; with the return of normal conditions it will emerge again.

The White Paper rejects as impracticable such alternatives as the abolition of the Road Transport Board and the substitution of free competition in road transport, either completely or in respect of freight; the transfer of the Road Transport Board's undertaking, or its component parts, to the several railway companies so that its services should act as "feeders" to the railway system; the control of private transport of freight by a system of restrictive licensing.

The Government has reached the conclusion that the co-ordination of road and rail transport by joint committee and a pooling arrangement is impractical, and would be barren in its results. It is stated that experience gained in the stress of war has shown how much can be achieved in the way of detailed operating co-operation and, by that very fact, that the difficulties of wider co-ordination are more real and deep-seated than was at one time supposed. To this extent the further trial suggested by the joint select committee may be regarded as having been made.

It is stated in the White Paper that the railways' war record emphasises their importance as an integral part of the transport system, and in the view of the Government there is no practicable alternative. Public transport by road, both for freight and passengers, has become equally necessary to the community, and is likely to become more so. Like the railway companies, the Road Transport Board under normal peace conditions could not provide essential services at the existing rates and fares unless it, too, could secure an additional volume of traffic. Essential services, some of which are unprofitable in themselves, cannot be maintained by a separate road transport undertaking without additional traffic to help to cover expenses; and the railways, while they remain separate, will be competing for this additional traffic.

Another factor in the problem is that practically all working costs have increased in transport since before the war. These increased costs must be covered either by economies arising out of more efficient operation or by increased charges, and no re-organisation of the transport undertakings can conjure away this necessity.

While the Government believes that these desirable objects are attainable, progress towards them must inevitably be slow. The dislocation and deterioration caused by war must be made good; the existing undertakings must be re-organised gradually into the new undertaking so as to avoid disorganising traffic and trade; and the existing essential needs must be carefully studied and met by the new management before the possibilities of more profitable development can be explored. The new concern will not have a monopoly, although it will inherit the obligations imposed on the railways and the Road Transport Board for the benefit of the public.

U.S.A. Passenger Progress Coming Again

"PASSENGER Progress Coming Again" is the slogan used by our American contemporary, the *Railway Age*, to introduce its annual review of developments in passenger traffic and services. The 1945 issue, published on November 17, asserts confidently that progress in passenger business, arrested by the war, will be resumed on a big scale as soon as current movements of returning troops are finished. The U.S.A. railways expect to carry 3,540,000 service men by passenger train in the first six months of 1946 and about two-thirds of the available sleeping-car berths are assigned exclusively to military use. During that time facilities for civilian travellers will be restricted severely, but July should bring a good travel market and, to make the most of their opportunity, the railways have planned a complete renovation of their passenger-carrying equipment and schedules.

The railways aim at supplying what their customers want and on various lines the wishes of over 30,000 persons have been recorded, special pains having been taken to study the needs of women travellers. On the New York Central male passen-

gers named air-conditioning as the most important factor in travel comfort, whereas women attached most importance to comfortable seating. Passengers on western lines like the Santa Fe and "Frisco" expressed preference for diesel-powered streamline trains as affording smoother and cleaner running than trains hauled by steam locomotives. The attention of the railways is undoubtedly focused on high-speed streamline trains as the best answer to road and air competitors, though it is appreciated that improvements to permanent way and to out-of-date passenger stations also are essential.

Soon after the end of the war, the railways placed orders for over 1,000 new passenger coaches. As a general rule, lightweight materials and welded fabrication will be used in coach designs. We are told that there will also be "new interior arrangement, colourful decoration treatments and convenience features best covered by the expression, 'the sky is the limit.'" Revolutionary suggestions as to luxurious equipment are described in an article bearing the "catchy" title "Where do we go from here?" This depicts the latest ideas of the railway coach-builders in a series of coloured illustrations. Some of the designs are decidedly garish. Perhaps the most striking picture is the one of the Astra-Liner, a train now being built for the Electric-Motive Division of General Motors Corporation. This train comprises lounge, dining, and sleeping cars equipped with steel-frame, glass-enclosed observation domes from which passengers can view the scenery in comfort and quietness. The domes are said to increase the height over the roofs of standard cars by only 18 inches and to be within general clearance limits. When completed, the Astra-Liner will be taken on a tour through the States by its owners, who believe that "its eye-filling appeal" will stimulate railway passenger traffic. With the same object a number of other firms is busy developing new types of railway vehicles.

There is plenty of room for competition, as nearly 50 per cent. of the existing stock of 38,500 passenger coaches owned by the class 1 railways are over 25 years old. During the war the number of streamline trains remained practically static, but over 8 per cent. of passenger locomotive mileage is now worked by diesel power as compared with less than 6 per cent. by electric power. More diesel-powered trains will be in traffic next autumn and at long last serious proposals have been made for running through transcontinental streamliners between New York and California. Tentative schedules for week-end "sailings" with Friday evening departure and Monday morning arrival have been drawn up. In the meantime, eastern railways like the Pennsylvania and New York Central are heading long-distance passenger trains by new steam locomotives capable of an immense tractive effort.

The enterprise shown in planning progress in the after-war years is remarkable because it is difficult to make passenger service pay on most American railways. Good passenger service, runs the argument for its development, is the best form of advertising and public relations activity that a railway can carry on; a financial return will accrue indirectly through the freight department! It is even more surprising to hear that the executive railway officers who are responsible for large expenditures on new rolling stock, mainly designed for luxury travel, are generally of opinion that fares should be lowered. Why, in a time of prosperity, the American people should pay less for better railway service, is not explained. Possibly railway passenger managers may be unduly influenced by the fear of losing business to airlines which fly with the support of direct or indirect State subsidies. There may also be some reluctance to abandon railway passenger services which cannot pay their way in any circumstances.

In the years immediately after the first world war the average revenue per passenger mile was over 3 cents. Since 1934 this average has been less than 2 cents, but year after year the volume of passenger traffic was at least 50 per cent. below the 1921 figure until the second world war came. At present railway expenditure is rising rather steeply so that some ingenuity will be needed to establish a commercial case for a general reduction in fares. The matter is not discussed at length in the *Railway Age*, though an editorial concludes that "railway passenger trains, with service properly priced, with fast, frequent and convenient schedules, and with their superior safety, have a list of attractions not possessed by any of their competitors." This question of "proper prices" is of fundamental

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importance compared with a topic such as "training employees in tactful behaviour," to which five pages are allotted.

There is apparently a tendency for American railwaymen to assume that any revision of fares must be downward, forgetting that passenger service should yield a reasonable dividend. Judgment on the subject may fitly be suspended until the passenger research committee set up by the Association of American Railroads has published the results of the intensive study which it has made of all phases of peacetime traffic, including basic fares.

The Lines of Communication, Assam

WELL over a hundred officers of the North Western Railway (India) attended a lecture by Mr. G. E. Cuffe, Director-General, Railways, Calcutta, at Headquarters Office, Lahore, on October 16, when he took as his subject "The Lines of Communication, Assam," which is the story of surface transport immediately behind the Burma Front during the Japanese threat to India. In his talk, Mr. Cuffe revealed figures of supplies moved over a network of single-line metre-gauge tracks which would have staggered the traffic pundits before the war.

The main topographical feature was the River Brahmaputra, stretching right across the lines of communication. There is not a single bridge across this river anywhere in India. All surface traffic from Calcutta and other parts of India had to be ferried across. With two or three minor exceptions, the bulk of the supplies was handled over the metre-gauge railway from Parbatipur to Amingaon (the only place on the river where the stream is confined to a definite channel) and after being ferried across the river there, was sent forward to Manipur Road, Ledo, and Dibrugarh over the old Assam-Bengal Railway. This route was for the most part level, but there were exceptions in Assam, where a gradient of 1 in 150 ruled over certain difficult jungle sections. Supplies landed at Chittagong were worked north over a much more difficult route, including an 11-mile section where trains had to be banked up 1-in-37 grades.

The Lines of Communication, Assam, was conceived after the famous Quebec Conference in 1943, when plans for the Burma campaign were drawn up. At first, it was decided to go in for wholesale doubling of the line between Parbatipur and Amingaon and for the construction of a bridge of 450-ft. spans across the river. By the time the works came to be commenced, the single lines were being worked to such a pitch that it became well-nigh impossible to find paths for the construction trains, and much of the doubling was abandoned. The idea of bridging the Brahmaputra was dropped. The story of the Lines of Communication, Assam, therefore, is not so much one of new constructions, but of how the best was made of the existing lines of communication.

The capacity of the railway was stepped up by doubling short sections at the approach to junctions and terminals, by the provision of adequate siding accommodation at the stations in the vicinity of junctions, by the use of efficient train controllers, and by a ruthless disregard for the economics of railway working.

A call for volunteers from down country met with little response, and it was early decided to call on the United States for help. The result was the arrival in India of many of the now famous MacArthur 2-8-2 metre-gauge locomotives, thousands of goods wagons, and 4,700 officers and men from America. The personnel, 5 battalions with the high proportion of 27 officers in each battalion, were all railway men and they were stationed along the railway from Parbatipur to Manipur Road, Dibrugarh and Ledo. The Americans did not take over the whole of the operations to the total exclusion of the regular Indian staff, but worked in with and alongside the B.A.R. staff. They learned the Indian railway rules and worked to those rules, as it had been decided that it would be easier for the Americans to learn Indian ways than for the Indian staff to master American railway practice. Each learned lessons from the other.

Train despatching in the United States is a career. Men who train for it remain train despatchers throughout their working lives. This is different from the practice on Indian railways where the traffic staff graduate to work in Control offices and then go on to hold higher positions. The result in

America is, as Mr. Cuffe pointed out, a class of train despatchers who are more efficient than the Indian train controller, and who are on tip-toe the whole time.

The American train despatchers introduced several "stunts" not normally met with on Indian railways. One was a system of uniflow whereby for a certain period, generally 12 hours, trains were run in one direction only. If, during this time, one train was unable to maintain the same speed as the others, the despatcher "killed" it, and it was parked in the first loop ahead and kept there until a fresh path offered for it. In this way, the general flow went on with a minimum of interruption.

Another useful dodge was the working of 100-car trains over sections where the loops at passing places were only long enough to accommodate 70 cars. This was done by working 100-car trains in, say, the up direction, and 70-car trains in the down; the latter were made to take the loops while the longer trains ran through. These operations, of course, were possible only after sufficient reception accommodation had been arranged at each end of the line.

The best days' figures of operation over the single line were 22 trains each way on the metre gauge, and between 18 and 20 over the broad gauge. On the double-line broad-gauge section south of Parbatipur, the best was 60 trains a day. The figures of wagons ferried across at Amingaon were among the most remarkable. The Americans, Mr. Cuffe said, were disappointed because they never quite achieved their target of 1,000 wagons each way in 24 hours. The best figures were 963 up in one day and 1,028 down on another day; and the greatest number handled in the two directions in 24 hours was 791 up and 784 down. That was achieved with three ferries.

Apart from the railway and two petrol pipe lines—"Infinity" 800 miles long from Budge Budge (Calcutta), and "Twilight" from Chittagong to Dibrugarh—there was also the river, which for most of the year is navigable for craft drawing not more than 6 ft. of water. But river transport played only a small part and supplies that did go by boat were transferred to rail to complete their journey. The peak load taken was 8,975 tons in one period of 24 hours. This included 2,000 tons of petrol pumped through "Infinity" and "Twilight"; the balance of just under 7,000 tons went by rail. That alone was a great achievement and it demonstrated what can be done when the staff operating long sections of single-line metre-gauge railway are on their toes and dead keen to get the traffic through.

The Americans were out to finish the war as quickly as they could. Their methods were not economical. If there was an accident, bulldozers were used to push the wreck out of the way regardless of whether the derailed stock suffered greater damage in the process or not. It was the right thing to do. It was a case of clearing the line with the least possible loss of precious minutes; and if the bulldozers did cause a greater number of write-offs, that was a minor consideration. No war can ever be considered an economic proposition; and in war when time is more precious than rupees, ruthless methods have to be adopted.

At the time when the Japanese broke through on to the Imphal Plain, Mr. Cuffe said, fears were entertained for the safety of the Lines of Communication, Assam, and a large quantity of stores was moved back further away from the scene of fighting. But though Mr. Cuffe and others back at Headquarters waited anxiously, fearing that the next minute would bring news that the railway near Manipur Road had been cut, the Japs never reached the line.

The cream of the Japanese army was engaged in the area and it was defeated. After the relief of Imphal, one of the first trains sent over the Lines of Communication, Assam, carried a load of supplies two-thirds of which was petrol and the remaining third beer! It was thought, said Mr. Cuffe, that the best way of expressing the joy of the relief was by giving a ration of beer to every soldier in the battle.

The Lines of Communication, Assam, made possible the sending of the enormous quantities of supplies to China. Before the re-opening of the road those supplies were taken by the Lines of Communication, Assam, to the aerodromes from which the aeroplanes took off to fly them "over the hump"; and in this theatre the railway no doubt contributed in no small way to the record of 70,000 tons flown in one month to China.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

"U.S. and U.K. Motorcar Prices"

Overend Press Agency,
Grængates,
Bradford. January 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In your January 4 issue, Mr. H. D. Simmons, on behalf of the S.M.M.T., makes the usual lame excuses for the exorbitant prices charged for cars in this country. I think that most of us have always understood that, on the average, the dollar is worth five shillings. Granted that, will Mr. Simmons kindly explain why the American manufacturers can manufacture such wonderful cars as the Packard, Buick, and Chrysler at as many dollars as their not comparable counterparts cost pounds in this country.

Will Mr. Simmons explain, too, why the post-war cars, irrespective of purchase tax, are costing getting on for double their pre-war price when, in the national press during the past war, we were always being told that modern methods of mass production of aircraft would cheapen cars after the war. Are there not in the motor industry too many people getting "rake offs" for work they never touch—for instance, the so-called "Sole Distributor" who gets a commission on the sales of cars; in many cases he never lifts a finger to help the transaction—or maybe I am mistaken.

It is a far cry from cars to electric lamps, but, finally, why are branded lamps so cheap in the States compared with ours? According to the latest American magazines, a 100-watt lamp can be purchased for 15 c.

Yours faithfully,
H. LESLIE OVEREND

Electric Train Restoration in Holland

10, King's College Road,
Ruislip. December 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Having been away in Holland and Belgium, I have only just seen the short editorial headed "Electric Train Restoration in Holland," which appears in your December 7 issue.

Whilst not wishing to contest the figures given, I feel that the following statement—"that train communications between cities is said to be nearly normal as far as speed and frequency are concerned"—is a much rosier picture, to say the least, of the present situation on Netherlands Railways than is justified by the facts.

It is true that conditions on the main line, Rotterdam-Amsterdam, where through electric working was resumed on November 20, are not so very far removed from those existing before the war. Throughout the greater part of the day there is now a half-hourly service, and the running time of 1 hr. 33 min. from Rotterdam to Amsterdam, with five or six intermediate stops, indicates reasonably good speed, but on other lines conditions are very different. Although a few of diesel sets are now being worked, the average passenger train on the Netherlands Railways consists of a miscellaneous collection of old third class coaches together with a few vans and wagons also serving to convey passengers. The coaching stock is still in a very poor condition, many windows still being boarded up and, as far as can be seen, none have any lighting at night.

By way of illustrating the kind of stock now provided, I give, as a possible interest to your readers, the composition of the train on which I travelled from Utrecht to Roosendaal. The train was a through one from Amsterdam to Flushing, the whole journey occupying some 11 hr. As far as Roosendaal the train, hauled by a British 2-8-0 type austerity locomotive, was made up as follows:—

- Belgian Railway covered wagon.
- Netherlands Railway third class, non-corridor, bogie,
- Netherlands Railway third class, six wheeler,
- Netherlands Railway third class six wheeler with open end platforms, reserved for second class passengers only,
- Netherlands Railways bogie express-train brake van,
- German Reichsbahn covered wagon,
- Netherlands Railway non-corridor third class bogie.
- Netherlands Railway, corridor, third class bogie reserved for second class passengers,
- Hungarian State Railway third class four wheeler,
- Netherlands Railway bogie brake van.

With the exception of the last-named vehicle, as far as could be seen, the stock was intended for use by passengers (the train was not full so that all passengers were able to travel in vehicles built for passenger conveyance).

There was no heating on any part of the journey due to the fact that wagons were not provided with heating pipes and also, in this case, the austerity locomotive used had no train-heating connection. As austerity locomotives are being used for a considerable portion of passenger traffic in certain parts of Holland speeds are somewhat low, also trains are infrequent, four or five

trains a day in each direction being the usual service on very many lines apart from short-distance local trains.

The trains call at most stations which are open and journey times are therefore long. This, added to the fact that in journeys between north and south of the country, detours are still necessary because several important bridges have not yet been re-opened, which means that travel conditions are still far from normal. All that can be said is that it is now physically possible to travel by rail between any part of the country and any other.

Yours faithfully,
E. D. BRANT

Locomotive Front-End Research

The Locomotive Institute,
60, East 42nd Street,
New York, 17, N.Y., December 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have noticed with much interest Mr. E. L. Diamond's excellent resumé of the locomotive front-end research carried out by the Engineering Experiment Station of the University of Illinois.

May I point out that Mr. Diamond credits the study to Professor E. C. Schmidt but that the main credit should be given to Professor Everett G. Young. The study was published in Bulletins Nos. 256 and 274 of the University of Illinois Engineering Experiment Station and these carry on their title page Professor Young's signature alone. Professor Young's work is of great importance to anyone studying the action of the locomotive front end.

Attention is called to the fact that Mr. Diamond repeats Professor Young's statement that the heat energy in the steam jet appears to play only an incidental part. The original test figures do not support this view. They indicate that an increase in temperature of the steam, the steam pressure remaining the same, increases the amount of air taken through the front end. Full-scale experiments made by the New York Central confirm this view. It is New York Central practice to make locomotive boiler tests with the pistons removed and the draught produced by the steam being exhausted up the stack. It has been found that if the steam is exhausted in its superheated condition as produced, the draught is much more vigorous than is the case when the same amount of steam loses heat by doing work in the cylinders before being exhausted.

Yours faithfully,
LAWFORD H. FRY,
Director of Research

Nationalisation of Transport

Thorncliffe Works,
Near Sheffield,
January 5.

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—All that I have read or heard to the present on the subject of nationalisation of transport amounts merely to out-and-out opposition to the Government proposals.

To me this seems particularly futile in face of the declared intention of the Government to nationalise inland transport; whether or not it has a mandate so to do is beside the point. If and when the necessary Bill is passed, it will be the duty of all loyal citizens, as I see it, to put forward their best endeavours to make it work.

Surely, then, it is in the interest of trade and industry, rather than sit back and merely object to what is proposed, to put forward some constructive ideas which may help to avoid some of the pitfalls in the horrors of nationalisation. The points I have set out are, in the interests of space, very brief, and are only intended as a framework around which something constructive can be built.

Railways

It is at least questionable whether there would be any advantage from the traders' point of view in reducing the number of groups at present in operation. It is suggested, therefore, that the four existing groups, together with the London Passenger Transport Board, be left as they are with administrative and executive control in the hands of the existing organisation and that any Government control should be budgetary only. If any subsidy is necessary to maintain or even reduce the rates to be charged on raw materials, this should be found from revenue derived from one of the other transport services also under Government control, such as, for example, the Road Tax. There should be an extension of the joint road-rail collection delivery service which is being experimented with in Hull, Kent, Potteries, and Cornwall, even if this means the closing of an appreciable number of railway stations.

Road Transport

If the Government is to own and control road transport, then it should exempt all traffic carried up to 60 miles, as it does at present. Whatever may be the view of the Government, it is

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certainly the view of trade and industry that the Ministry's Road Haulage Organisation has not been effective, and in future control should be exercised by expert and experienced personnel drawn from the industry itself. There should be classification terms and conditions of carriage more in line with the railway terms and conditions. Existing Government conditions should be abolished and progress be continued on correlated rates on the lines of what has already been done by the Road & Rail Conference.

The existing Railway Rates Tribunal should be merged into a Transport Rates Tribunal which should cover rail, road, and canal.

Even under Government ownership and control the trader should retain complete freedom to choose the method of transport by which his goods should be conveyed.

With regard to the "C" licence holder, he should have the right to operate his own vehicles for collection and delivery of his own goods up to the present limit of 60 miles, and even beyond that where special circumstances justify it.

Canals

There are certain strategic and industrial requirements which must be safeguarded, but it is at least doubtful whether any appreciable expenditure would be justified on these waterways apart from maintenance and the keeping clear of the necessary channels.

General

It is felt that a large majority of traders is strongly opposed to the nationalisation of inland transport, but as it is the Government's declared intention to nationalise it, the above points are intended only as a suggested framework containing what are thought to be essential safeguards; nationalisation built around this framework might be less onerous than it would be without it.

No Bill for the nationalisation of inland transport should be tabled without trade and industry being first given an opportunity of considering and discussing it.

As I am chairman of several traders' associations and a member of others, I want to make it quite clear that these views are my own and not necessarily those of any of these associations or of the great firm which I am privileged to serve.

Yours faithfully,
H. R. CAULFIELD-GILES

The Haywards Heath Accident

27, Nether Edge Road,
Sheffield, 7. January 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It is with great interest that I read the report on the Haywards Heath accident as summarised in *The Railway Gazette* of December 14; also Dr. Tuplin's remarks in your January 4 issue.

I quite agree with his comments as to the aspects shown by the signals in question, but what struck me most in the report was

Publications Received

The Locomotives of Sir Nigel Gresley, by O. S. Nock, B.Sc. (with a foreword by O. V. Bulleid), 1945. London: The Railway Publishing Company, Limited; Longmans, Green and Company, 181 pp. 9 in. by 6 in. Cloth. Price 10s. 6d.—Mr. Bulleid sums up this work admirably in the first sentence of his foreword: "This book is a comprehensive review of the work of the most notable English locomotive engineer of his generation." Though largely based on a notable series of articles which appeared during 1941-43 in *The Railway Magazine*. Mr. Nock's book is a more comprehensive account of the subject, as it includes a number of additional items, logs of personally recorded runs, etc., which add much to its value. There are ten chapters, covering this fascinating history chronologically beginning with the early Gresley engines of 1911-14. The 1915-21 period of development follows with a special chapter on the first Pacifics. The immediate post-grouping period is then dealt with; among the many good features of this book is the broadness of its scope,

for it describes all locomotives built under Gresley's responsibility, no matter whether the particular design emanated from Doncaster, Stratford, or Gorton.

Experimental and rebuilt locomotives are treated in considerable detail, with the result that a most useful record is given, in concise form, of the trials of such devices as poppet valves, feed-water heaters, boosters, and so on. We are then taken on to the beginning of "the streamline era," when the performance of L.N.E.R. locomotives of Gresley's design reached new heights as yet unsurpassed in this country. The big 2-8-2 passenger engines and the various 2-6-2s also are very thoroughly described. Nothing is omitted; every kind of locomotive, whether large or small, is duly noticed and commented on. The author has thus continued up to 1941, the year of Sir Nigel Gresley's death, the story of the G.N.R. locomotives so adequately covered by G. F. Bird up to 1911. Mere lists of running and works numbers, with building dates, are omitted, however, and instead the author has concentrated on telling the story with a considerably greater degree of technical interest. The basic factors

that signal No. 36, which controls the exit from the loop to the main line, should be showing a normal yellow light at all. The line into which the train was diverted appears to have been in reality a shunting neck for the sidings in the rear of No. 44 crossover, Signal 36 being the exit signal from this neck.

As I understand it, the normal aspect for signals governing movements from sidings to running lines is either that a red light indicates absolute stop, and a yellow light authorises the driver of a train to pass the signal for shunting purposes in a direction for which the signal, when turned off, does not apply. In view of the fact that there was a dead end only a few yards beyond this signal, the reason for a normal yellow light exhibited there is extremely difficult to fathom.

The question also arises as to why No. 44 points were ever laid in as a facing connection. The rapid clearance of the running lines of trains desiring to use the sidings in the rear of these points hardly seems to be an adequate solution. Also, is the signalbox situated in the best position for giving an emergency signal to drivers on the lines in question? I hardly think so, even after taking all other things into consideration.

I should like to add that the majority of turn-outs in this country can be safely negotiated at somewhat higher speeds than the maximum as laid down by the various companies, but because of the difference of opinion even among experienced drivers, as to what constitutes any given speed, the companies are definitely right in fixing the maxima or the figures they do. This state of affairs will have to continue, however, until all locomotives are fitted with speedometers. The practice of not fitting them, generally, is much to be deprecated, particularly for express passenger engines.

Yours faithfully,
D. J. WORRAL

Braking Distances

The Dower House, Harlington,
Middlesex. December 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your issue of November 2, 1945, contained a G. D. Peters' advertisement for vacuum brakes. Whilst a certain allowance may be made for the exuberance of advertisers, this appears to have exceeded the limit. It claims that a train was stopped from 100 m.p.h. in a distance of $\frac{1}{2}$ mile. This is equivalent to a braking efficiency of 8.45 per cent., quite good braking for a main line train.

If the claim had stopped there, all would have been well. Unfortunately, it is added as a main feature, that the stop was made in under 30 seconds. Assuming straight-line braking and immediate application, the time for a stop from 100 m.p.h. in $\frac{1}{2}$ mile would have been 54 sec. As the stopping time decreases for the same distance and speed, the maximum deceleration must go up until, with a 30 sec. stop, a value would be reached which would enter the realm of fantasy, or alternatively, as the advertisement aptly claims, of miracles.

Yours faithfully,
H. R. BROADBENT

producing and influencing new designs are given, and due notice is taken of broad trends in locomotive practice and their consequent effects on Sir Nigel Gresley's policy. The result is singularly happy; the book is no catalogue but a fascinating history, recorded by an exceptionally well-informed and well-qualified writer. The production is worthy in every way of the subject; the printing and the innumerable photographic illustrations alike reach a very high standard, and provide an extremely attractive book.

W. O. S.

Straight-Lift Pneumatic Hoists and Rams.—We have received from the Consolidated Pneumatic Tool Co. Ltd., of 232, Dawes Road, London, S.W.6, a brochure dealing with the company's straight-life pneumatic hoists and rams. The various types of apparatus made by the company are illustrated, and tables are included, giving sizes and capacities. At 80 lb. air pressure the company's single-acting hoists have lifting capacities ranging from 2 to 30 cwt., and a double-acting type, mounted on ball-bearing runners, is made to handle 5 and 10 cwt.

The Scrap Heap

The L.M.S.R. ran 1,606 special trains of 17,616 vans of mails for American troops stationed in this country and Europe, between July 1, 1942, and November, 1945. The mail was received, sorted, and re-distributed from a Central Depot (now closed) at Sutton Park (L.M.S.R.) Station.

The Sheffield, Ashton-under-Lyne & Manchester Railway began to take shape in October, 1838, when the ceremony of breaking the ground took place. Certain ladies present were very much amused at the awkward performance of some of the Directors, who tried to dig out a good spadeful of earth. With our training from allotments and the last war but one some of us could put up a better show today.

The Manchester, Sheffield & Lincolnshire was known for many years as "the railway flirt," it was always trying to bring off a profitable alliance with one of the main trunk railways. In the end it decided to stop trying to attract the attentions of other companies, changed its name to the Great Central and, like other ladies, went to London, where it built Marylebone Station, which is the nearest approach to Arcadia that I have been able to discover in the railway world.

In the course of its "flirtations," the Sheffield line joined forces with the old Great Northern to run a London and Manchester express service between King's Cross and Sheffield via Retford. In those highly competitive days the North Western people reacted vigorously to this threat to their own Manchester-London traffic. They began to take people into custody for coming by the Sheffield trains into the Manchester station. The Sheffield company had painted up its name, but the North Western painted it out. They even turned the clerks out of the booking office. —Sir Ronald Mathews at the centenary luncheon of the Sheffield, Ashton-under-Lyne & Manchester Railway, on December 28.

CRIPPS'S "GIFT" STARTLES VULCAN FOUNDRY

"Newton-le-Willows.—Vulcan Foundry, 56,957 sq. ft., locomotives. Employment for 150 workpeople."

This announcement by the Board of Trade in its list of 29 "gifts" for civil production has startled a well-known

Lancashire firm and caused serious doubts about the value of other "gifts" in Sir Stafford Cripps's catalogue.

At Newton-le-Willows the factory floor-space of nearly 1½ acres—and 34½ additional acres of factories there—belongs to the Vulcan Foundry Limited, already employing over 3,000 people. The original factory was established there by the locomotive pioneer, George Stephenson, in 1830. It has grown with the years, and during wartime the company made considerable expansions.

An official of the firm, moreover, told the *Manchester Evening Chronicle* that far from providing work for only 150 people, they hope to increase their total eventually by 4,000.

"During the early part of the war our factories here turned over to 70 per cent. munition production—including tanks—and 30 per cent. work for the Admiralty, including torpedoes. But half-way through the war the demand for locomotives became so great that in 1942 we switched back to our original production of locomotives."

"None of the factory space at Newton-le-Willows is or was owned by the Government. All the expansions have been carried out by the firm," he added. —From the *Manchester Evening Chronicle*.

100 YEARS AGO

From BRADSHAW'S RAILWAY GAZETTE,
January 17, 1846

OXFORD AND SALISBURY DIRECT RAILWAY.

The Committee of Management have the satisfaction to announce that the requisite notices have been served on the landowners and occupiers, and that the plans, sections, and books of reference have been regularly deposited in the Parliament Office, and Private Bill Office, and with the clerks of the several parishes throughout the line. The whole of the standing orders of both Houses of Parliament have thus been fully complied with, and the committee are proceeding with all the necessary preparations to enable them to present their bill in the ensuing session.

By order of the Board,

Z. HUBBERTY, Secretary,
Moorgate Chambers, Moorgate-street,
January 1, 1846.

AMBERGATE, NOTTINGHAM, and BOSTON, and EASTERN JUNCTION RAILWAY.

The Committee of Management, without condescending to notice any of the anonymous and false statements which have from time to time appeared in several of the public prints, have the satisfaction to assure the shareholders that the plans, sections, and books of reference have been most minutely examined by the engineer, and that the whole are found to be most accurately prepared, and that every measure has been adopted which the committee feel confident will insure the passing of the bill through standing orders.

By order of the Board,

JOHN GOUGH, Secretary.
Nottingham, Jan. 9, 1846.

RAILWAY QUESTIONS AND ANSWERS

Statement: The railways consistently refuse to build larger wagons, although these would provide greater economy in operating and would enable rates to be reduced.

Answer: This is not true: in fact the railways are only too willing to build 15- and 20-ton wagons in preference to the 10-ton wagon, as operational costs could be lowered and bulk freight handled more efficiently. The difficulty is that whilst larger wagons would be an advantage to the railways, many traders do not want them. Many of the heavy industries, including some collieries, oppose the introduction of larger wagons because of their sidings, wharves, warehouses, or loading and unloading machinery could not handle them. The small trader in this country works on small stocks necessitating the frequent delivery to him of fresh supplies—sometimes two or three times a week—which demands a small wagon and rapid transit. If railway companies had to wait until sufficient goods were accumulated to fill a large wagon, traders would have to hold larger stocks, as they do in America. Wherever it has been possible to make use of larger wagons the railways have done so. Twenty- (and even 40-) ton wagons are already in operation in many of the coal fields, and for the railway companies' own requirements there are also 40-ton wagons. There were 20- and 40-ton wagons 40 years ago, and at the outbreak of war there were 74,000 railway-owned wagons of over 20 tons capacity, and as the demand for these increases so will the supply, but it would be merely a waste of money to provide wagons which industry could not fully use. —From "Answers to Questions and Statements," issued by the British Main-Line Railway Companies, 22, Palace Chambers, London, S.W.1.

PHOTO GREETINGS

You will soon be able to send your photograph overseas as quickly as you now telegraph greetings, forecast Sir Edward Wilshaw, Cable & Wireless Limited Chairman, at the Telecommunications Exhibition recently in Charing Cross Underground Station. Already telegraph photos have been sent experimentally from Australia to Britain; one from Major H. A. Steel (Melbourne) to his mother in Cambridge Road, Twickenham, was received within three hours.

OPERATING ODES

(Fruit-growing district organisation)

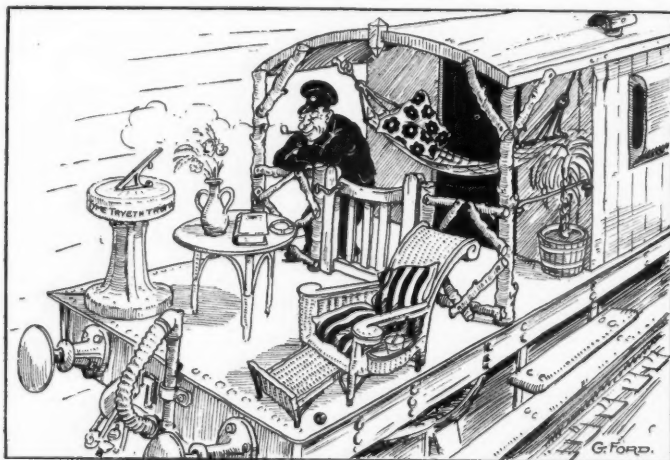
I go to How in wintertime,
In wintertime, in wintertime.
I go to How in wintertime,
To How Green-in-the-Fen.
Enshrouded in his winter gloom
Adreaming of the fruit to come,
The porter's in the porters' room
Until the train runs in.

Go up to How in April-time,
In April-time, in April-time,
Go up to How in April-time,
To How Green-in-the-Fen.
The porter digs with brooding foot
And spreads manure and seasoned soot,
But halts not fork nor cleans his boot
Until the trains run in.

Let's go to How in summertime,
In summertime, in summertime,
Let's go to How in summertime,
To How Green-in-the-Fen.
At last the fruit is on its way.
The station master's there to-day
Assisting the clerk and porter gay
To haste the train run in.

But go to How November-time,
November-time, November-time.
But go to How November-time,
To How Green-in-the-Fen.
Dark shadows round the office loom,
The porter's in the porters' room,
The S.M. hibernates alone
After the trains run in.

H. W. W.



Brighter brakes for the summer

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Sickness Benefits

It has been officially notified that the South African Railways Administration has decided to grant the following benefits with effect from January 1, 1946:—

To Casual European Staff: Provision will be made in the sick fund regulations for the admission to membership of the sick fund of Europeans employed by the department in a casual capacity, excluding intermittent casuals, with effect from the date that they complete 12 months' continuous casual service and, in respect of such membership, the servants concerned will be required to pay contributions to the sick fund on the scale applicable to ordinary members of the fund.

Casual servants employed on major construction works will be entitled to the benefits mentioned without initially being required to complete 12 months' continuous service and the construction sick fund will be abolished.

Sick Pay: Members of the casual European staff, including re-employed pensioners, but excluding intermittent casuals, subject to their being members of the sick fund, will be entitled to sick leave with pay at the rate of two-thirds of their basic daily wage at the time they are booked off sick, on the basis of 12 days a year after completion of 12 months' continuous casual service.

To Non-European Staff: Medical Attendance: Coloured, Indian, and native servants of the department will continue to be entitled to medical attendance for themselves on the present basis applicable, but medical attendance will, with effect from January 1, 1946, be rendered to such servants at their places of residence in cases where this is desirable, provided such places of residence are within a medical district.

Indian employees in Natal will continue to be entitled to medical attendance for themselves and their families on the present basis applicable.

Sick Pay: Members of the non-European staff, excluding intermittent casuals, will be entitled to sick leave at the rate of two-thirds of their basic daily wage at the time they are booked off sick, on the basis of 12 days per annum after completion of 12 months' continuous service.

Railway Work for Disabled Soldiers

More than 1,000 South African soldiers, disabled in the last war, are carving out new careers for themselves on the railways. These men, with disablement ranging from 5 per cent. to nearly 100 per cent., are justifying the efforts to make their return to civilian life as easy as possible. The majority of the men affected were in the railway service before enlistment, and of these nearly three-quarters are doing the same type of work as they did before the war. New positions have been found for the remainder, and work has also been found for new entrants to the service.

All cases of military disablement are first referred to the military medical organisation for the restoration, as far as is possible, of the organic capacity of the individual. The railways undertake the functional or occupational rehabilitation, with the assistance, in the few cases where this is found necessary, of the re-adjustment section of the Demobilisation Directorate.

Where the disablement of a man pre-

cludes employment in the grade in which he was previously engaged, and it is found necessary to transfer him to a lower grade, his rate of pay is adjusted to the maximum for the new post. In addition, the General Manager, at his discretion, may grant such higher rate of pay as is considered reasonable.

KENYA & UGANDA

Jubilee Celebrations

In commemoration of the 50th anniversary of the landing in Mombasa of Sir George Whitehouse on December 11, 1895, to open the construction of the old Uganda Railway, the stations were decorated throughout the entire system and all ships of the lake fleets were dressed. The headquarters building and Nairobi Station presented a particularly impressive appearance. The station main entrance was extended by a structure composed of four light cream-coloured pylons, 30 ft. high, 18 in. wide and 8 ft. deep, linked up with the canopy over the entrance. Each pylon carried a Union Jack fixed at an angle leaning forward. The pylons were horizontally linked by a blue-coloured tie 3 ft. deep, which formed three recessed panels. The centre panel carried the old Uganda Railway and the Kenya & Uganda Railways & Harbours coats of arms; over the two side entrances the dates 1895 and 1945 were displayed. In the other bay there was a large red panel on which was superimposed "fifty years" painted in gold colour.

The station platform was gaily decorated with bunting and the morning mail train entered the station to the accompaniment of a fusillade of exploding detonators. Its arrival was filmed by photographers of the Kenya Information Office. The locomotive—one of the Mikado class—carried a shield and flags on the smokebox door inscribed "Fifty Years of Service, 1895: 1945." When the train pulled up the engine crew were greeted by several old employees who had been with the railway in the early construction days. Other important trains were also decorated: the Garratt locomotives carried a shield on the front of the leading watertank. At night the railway headquarters building and Nairobi Station were flood-lit.

Estimates for 1946

The estimates of revenue and expenditure for the year 1946 are now being considered by the Kenya Legislative Council. They have already been passed by the Uganda Legislature and will be debated in the Kenya Legislative Council early in January. The railway (as distinct from the port) is budgeting for a revenue of £3,610,000—a reduction of £427,000 on the revised estimates for 1945. This expected decrease in railway traffic follows the end of the war and the contraction of service activities. Total expenditure (including renewals contribution) is estimated at £3,151,736. After payment of interest and other charges the railway account is estimated to produce a surplus of £13,699.

On the port side the earnings are estimated at £606,290—a decrease of £36,463 on the estimated revenue of the current year. Expenditure, including renewals contribution, is estimated to amount to £473,589. After payment of interest charges there is expected to be a deficit of £73,221 on the harbours account which, with the surplus of £13,699 from the railway account and certain adjustments, will leave an estimated net deficit of £61,594.

The difficulties of estimating the revenue

which is likely to accrue in the first full post-war year need not be emphasised: a great deal will depend on how quickly the export position in the United Kingdom is restored and how far the shipping position will be eased to increase exports to East Africa. Should the situation in these two respects develop more rapidly than it was thought prudent to expect when the estimates were framed, the financial position at the end of 1946 may well prove to be much more favourable than is forecast by the estimates.

UNITED STATES

Summer Time in Chicago

An extraordinary timetable position in Chicago was brought to an end on October 28, when the city, after a long delay, decided to come into line with the rest of the United States by abandoning summer time for Central Standard time. From the date on which summer time came to an end in the United States generally, there had been considerable confusion in all the long-distance railway terminals in Chicago, where all trains were arriving and departing 60 min. behind time according to their published schedules. Normal timekeeping is now restored.

Banned Wartime Conventions

It is estimated that the wartime ban on conventions in the United States resulted in a saving of all but 1,000,000,000 passenger-miles of rail travel. During the existence of the committee on conventions, 4,095 applications were reviewed, and 495 only were approved. The attendance anticipated at the disallowed 3,600 totalled 3,248,775 persons, and it was computed that 55 per cent. of these would have used rail transport, each over an average distance a little over 300 miles.

New Alton Train Services

From the end of October, the Alton Railroad restored to service Trains Nos. 9 and 10 between Chicago and St. Louis, chiefly for the use of coach passengers, though certain through sleeping cars for the south are handled on the southbound train. No. 9 leaves Chicago at 11.59 p.m., and No. 10 leaves St. Louis at 12.30 a.m. From the same date, the "Abraham Lincoln" diesel-hauled streamline train between Chicago and St. Louis has operated in two sections daily in each direction.

EIRE

Transport Advisory Committee

Mr. Lemass, Minister for Industry & Commerce, Eire, has decided to set up the Transport Advisory Committee provided for under the Transport Act. It will consist of five members: a Chairman and three members nominated by the Minister, and one member appointed by the Minister for Agriculture.

Two members have been chosen by Mr. Lemass—Mr. P. A. Foley, recently resigned from the Great Northern Railway, and an expert on railway organisation and rates; and Mr. W. J. Whelan, Secretary, Dublin Typographical Society, who would represent Labour interests. The Minister's next nominee will be a representative of Commerce.

The duty of the Committee will be to advise the Minister in respect of any matters referred to it by him. It may hold investigations, send for witnesses, examine on oath, and require the production of documents. Witnesses shall be entitled to High Court immunity and privileges. The Chairman will be a lawyer.

Jubilee of the Uganda Railway

Construction of the Uganda Railway, now part of the Kenya & Uganda Railways system, was begun in December, 1895

By A. Dalton,
Superintendent of the Line, Kenya & Uganda Railways

IN its issue for July 30, 1897, the London periodical, *Truth*, published the following lines by the editor, Labouchère, ridiculing the Uganda Railway, then under construction from Mombasa to Lake Victoria:—

"What it will cost no words can express;
What is its object no brain can suppose;
Where it will start from no one can guess;

Where it is going to nobody knows.
What is the use of it no one can conjecture;

What it will carry there's none can define;

And in spite of George Curzon's* superior lecture,

It clearly is naught but a lunatic line."

It was on December 11, 1895, that Mr. George Whitehouse and an advance party arrived at Mombasa to begin the construction of the Uganda Railway; but the proposal to build a railway was first made some 10 years before that date. Although British ships had touched the East African littoral well before the dawn of the 19th century it was probably the exploration and survey work of H.M.S. *Leven* and *Barracouta* in the 1820s that directed British attention to East Africa.

Imperial British East Africa Company

In September, 1884, Sir H. H. Johnston obtained a concession of territory from Chief Manderu of Taveta, a concession which he handed over to the President of the Manchester Chamber of Commerce, and it became the basis of the Association of British Merchants whose intention it was to develop the territory by building a railway. The association ultimately became the Imperial British East Africa Company. It was formed in 1887 with Sir William Mackinnon as its Chairman, and a year later was granted a charter.

The I.B.E.A., as the company came to be known, was given large concessions by the Sultan of Zanzibar, but it had to meet stiff opposition from Germany, who also had received concessions further south. The company complained bitterly because it was getting so little backing from the British Government. But Britain had her own difficulties. The military occupation of Egypt in 1882 antagonised France, and Bismarck exploited the position to the full. Lord Granville, when Foreign Secretary, adopted a conciliatory attitude towards Germany, but Lord Rosebery, who succeeded him, was much firmer.

Zones of influence as between Britain and Germany had been agreed on in 1886, but German incursions into British territory continued, and it was not until the Brussels Conference of 1890 that definite boundaries were demarcated and British interests recognised as paramount in Uganda and what is today Kenya Colony. The conference recognised that the slave trade could be suppressed effectively only by the construction of roads and railways, and by establishing steamboats on the inland lakes and navigable waterways.

With the signing of the treaty, I.B.E.A. felt confident that it would receive Gov-

ernment backing in the construction of a railway. Captain Lugard, when first engaged by the company, was given the task of finding an alternative route inland avoiding the waterless Taru desert. He followed the Sabaki river upstream as far as Machakos, establishing posts at Tsavo, and beyond Machakos at Dagoretti. He suggested that a railway should follow the Sabaki from Malindi, with a coastal line connecting Malindi and Mombasa.

The directors engaged Sir Guildford Molesworth and Sir John Fowler, two eminent engineers, to advise them on the steps to be taken for opening railway communication between Mombasa and Lake Victoria, wisely deciding that Mombasa, with its magnificent natural harbours, must be the terminus of any railway. Both engineers reported favourably on the project, and the company secured the services of Captain Macdonald, a Royal Engineer, experienced in railway location. For the survey, £20,000 was voted.

Macdonald arrived in Mombasa with his party in December, 1891, and in 10 months surveyed 2,724 miles. He investigated routes via the Taru desert and Sabaki valley, and also surveyed two routes between the Rift Valley and the lake, one by way of the Sotik country; the other followed what is today the Uasin Gishu route of the main line as far as Lugari; thence he followed the Nzoia River to the lake at Port Victoria. Macdonald finally recommended the alignment via the Taru desert and the Uasin Gishu Plateau.

Government Support Withdrawn

Before the survey was completed Salisbury's Government was defeated and Gladstone returned to power, and when the report was presented to Parliament it was decided to take no action. In the meantime I.B.E.A. had imported some 60 miles of 2-ft. gauge track and had laid 8 miles of it towards Mazeras, commencing from Ras Kipevu on the mainland north-west of Mombasa Island. That was as far as it got. The directors realised that without Government support they could not finance such an undertaking. Later the track was picked up and used as trolley lines on the island. About the last remaining signs of it today may be seen in the vicinity of Fort Jesus, where it is used as railings.

Because of lack of support the company also decided to withdraw from Uganda. The public announcement of this decision caused a sensation at home—Lugard, who had reached England, proclaimed that the abandonment of Uganda would be a calamity. The Government could not ignore such an outcry, and instructed Sir Gerald Portal, Resident at Zanzibar, to proceed to Uganda and report on the best way of governing it. Among Portal's recommendations was the construction of a railway.

Gladstone resigned in 1894 and was succeeded as Prime Minister by Rosebery. He was a supporter of the railway, but his colleagues were not. July, 1895, saw Salisbury back in power, and in that month the Charter of the I.B.E.A. was revoked and the British Government took over the administration of East Africa.

The decision to build a railway was taken and the Uganda Railway Committee was formed under Sir Percy Anderson, of the Foreign Office, as Chairman. Several contractors applied for the work, but the committee voted for departmental construction. The track was to be metre-gauge with 50-lb. rails and a ruling 2 per cent. grade.

Construction Begins

When Whitehouse arrived in Mombasa on December 11, 1895, he was faced with the problem of creating an organisation equal to that required for the maintenance of an army of 20,000 men. No supplies were procurable in the country. Everything had to be imported. Stores were dumped from lighters at high water and recovered when the tide receded. African labour came forward only in small numbers and the bulk of the labour was Indian coolies engaged on a 3-year contract with rations, housing and free medical attention. Fares were paid to and from India and wages were 15 rupees a month. By the end of 1896 railhead had reached Mariakani at mile 22. The construction party got considerable assistance from the staff of the former I.B.E.A. Company. The road to Kibwezi, built at the expense of Sir William Mackinnon and carried on to the lake by Captain Slater, R.E., proved of inestimable benefit.

By the end of 1897 railhead was at Ndi just beyond Voi. In 1898 one of the advance survey parties under a surveyor named Blackett advised the Chief Engineer that a practicable alignment to the lake could be found along the Nyando river valley, thus saving 70 miles on Macdonald's route. After investigation this alignment was adopted by Whitehouse. It was in 1898, too, that lions gave so much trouble to the construction. No fewer than 28 coolies lost their lives, but the history of this phase can be read in Patterson's "Man Eaters of Tsavo." In 1899 railhead reached Nairobi, and in July of that year headquarters were transferred from Mombasa. And so was founded the capital of Kenya Colony.

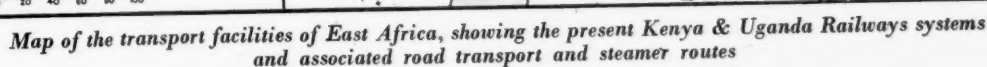
Lake Victoria Reached

The negotiation of the Rift Valley gave some trouble. Strikes in England and the outbreak of the South African War in 1899 delayed the arrival of the viaduct steelwork. In order not to hold up progress, Whitehouse constructed an incline down the face of the escarpment and continued the track along the floor of the valley to the Longonot saddle where eventually the permanent alignment coupled up. On December 20, 1901, the first train reached the shores of Lake Victoria, 585 miles from Mombasa, just 6 years after the arrival of the Chief Engineer at Kilindini. But there were still many temporary diversions to be eliminated, and it was not until October 1, 1903, that the committee finally handed over to the Protectorate Government. The original vote of £3,000,000 was exceeded, and by the time the line was handed over it cost £5,317,000. The cost and the time the railway took to complete were severely criticised at home, but in the words of Sir Charles Eliot: "It is not an uncommon thing for a line to open up a country, but this line literally created a country."

And so the "lunatic line" was launched. The original Uganda Railway forms little more than one third of the Kenya & Uganda Railways & Harbours system of today, and 131 miles of its length have been relegated to the inferior status of branch line. It could not be described as

(Continued on page 69)

* Under-Secretary of State for Foreign Affairs, 1895-98, later Lord Curzon



Oil-Burning Locomotives on the G.W.R.

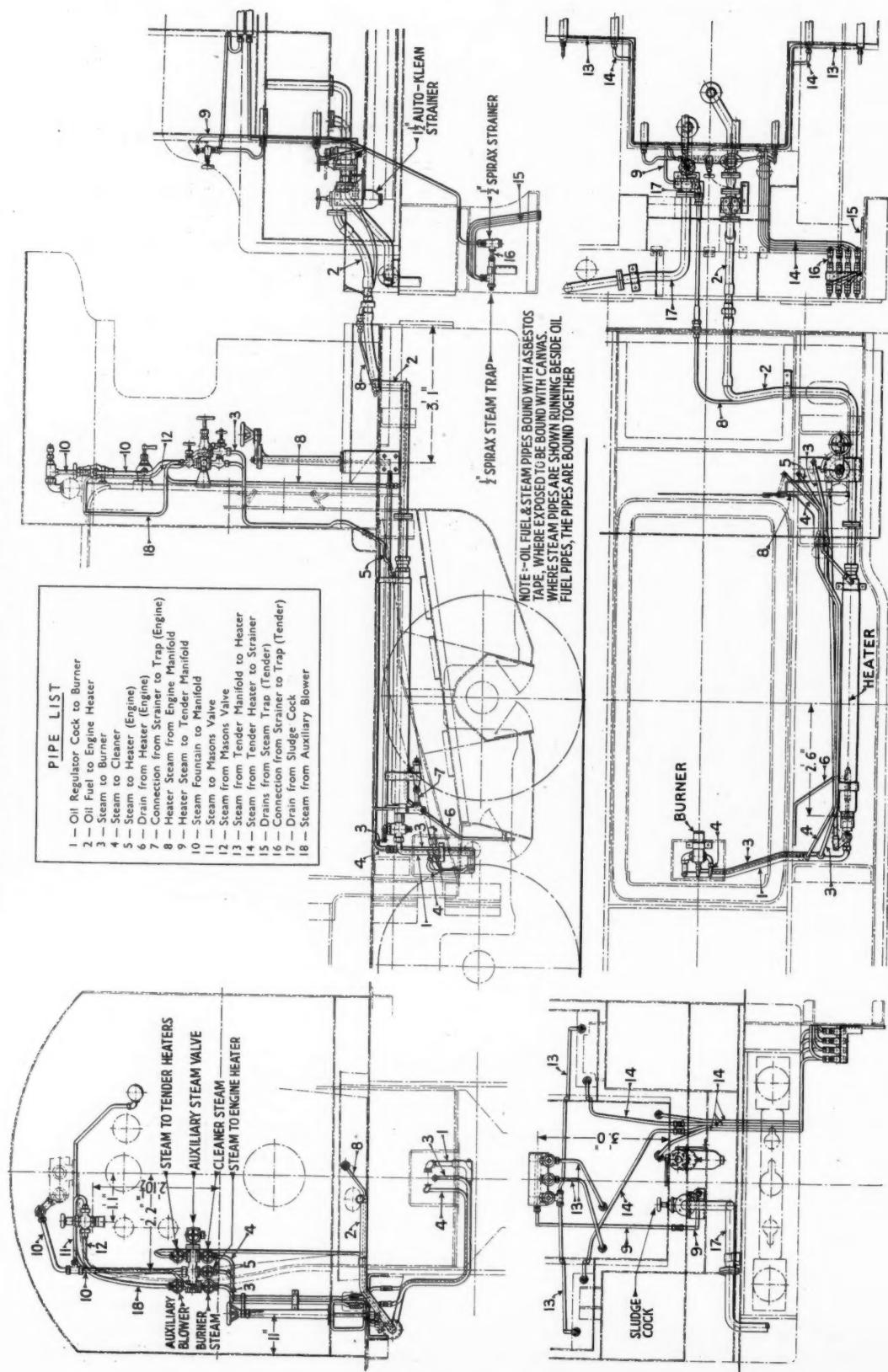


Fig. 1—Arrangement of piping and gear for oil fuel, "2800" class locomotives, G.W.R.

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Oil-Burning Locomotives on the G.W.R.

Conversion of heavy freight tender and tank engines

EIGHTEEN heavy freight locomotives are being converted experimentally by the Great Western Railway at Swindon to burn heavy fuel-oil instead of coal. The first ten will be 2-8-0 tender engines of the "2800" class, and these will be followed by eight 2-8-0 tank engines of the "4200" class.

While the acute coal shortage is the primary reason for this experiment, which is being carried out in conjunction with the Anglo-Iranian Oil Co. Ltd., it will also afford useful data for determining the extent to which economies can be effected by the use of oil instead of coal, particularly in respect of the time required for servicing and preparation of engines.

The oil-burning equipment for these conversions, the first of which has been completed, consists essentially of a weir type burner, an oil regulating cock and heater, and a steam manifold carrying the necessary control valves (see Fig. 1).

Oil fuel is contained in a tank having a

heating loops, each with a heating surface of $8\frac{1}{2}$ sq. ft., are fitted one on each side of the main tank. The steam supply to the heating coils is controlled by three valves mounted at the front of the tank on a manifold which is fed through a flexible hose from the steam manifold on the engine.

The oil from the standpipe passes through a 2-in. shut-off cock and an Auto-Klean filter, and thence through flexible hose to a $1\frac{1}{2}$ -in. bore pipe running under the left-hand footplate of the engine. Here it passes through an auxiliary heater in the form of a steam jacket about 5 ft. 3 in. long, and then immediately through the oil regulating cock to the burner.

The oil regulating cock is linked to a quadrant graduated in degrees and operated through a pinion drive by means of a horizontal control wheel located in the front left-hand corner of the cab.

The steam manifold on the engine,

The burner, mounted at foundation-ring level in a small chamber at the front of the firebox, is of the type in which oil flows over a weir on to a ribbon of steam by which it is caught up, atomised, and projected towards the back of the firebox at an inclination to the horizontal. The oil orifice is 2 in. wide \times $\frac{1}{4}$ in. deep, and the steam orifice immediately underneath is $2\frac{1}{2}$ in. wide \times 0.018 in. deep. The trials at present in progress, however, will determine the most desirable dimensions of the steam orifice. The chamber carrying the burner has a small bottom damper door which can be pre-set to a suitable opening. The arrangement of the modified firebox and grate is shown in Fig. 3.

The floor of the firebox consists of a steel plate in which are cut six rectangular holes giving a total air inlet of $2\frac{1}{4}$ sq. ft. The normal type of ashpan has been modified to provide a suitable firepan; the original damper gear is retained. The air supply to the firebox through the orifices in the floor is controlled by opening or closing the damper doors in the firepan. Firebricks, supplied by E. J. & J. Pearson, Stourbridge, with a high alumina content, are used to line the floor and the lower



General view of a tender fitted with oil-fuel tank

total capacity of 1,800 gal., and designed to fit into the coal space of the 3,500 gal. well-bottom tender (Fig. 2). The front of the tank is lagged with asbestos non-conducting composition, and precautions have been taken to prevent free circulation of air around the sides and back. An oil filler pipe of 4 in. bore runs from the top of the oil tank towards the rear, and then passes vertically downward through the water space to the underside of the water tank, where it branches transversely to provide a filling point on each side of the tender. The oil level is indicated by a float gear of conventional type.

The lower front portion of the tank is a partially sealed chamber about 3 ft. 6 in. \times 2 ft. 4 in. \times 1 ft. 8 in. deep, into which the oil flows through holes in the back partition plate, and from which it is drawn through a stand pipe 1 ft. 5 in. high. This chamber contains two steam-heating coils with a total heating surface of $29\frac{1}{2}$ sq. ft., and is also fitted with the bulb of a Rotor-therm thermometer, the dial of which is carried on the front of the tank. Auxiliary

situations immediately to the right of the oil control wheel, is fed with saturated steam from the boiler fountain, and carries five valves controlling steam to

- (i) the burner;
- (ii) the burner cleaner;
- (iii) the normal blower in the smoke-box;
- (iv) the oil heater on the engine; and
- (v) the oil heater on the tender.

A sixth valve on the manifold enables steam from an outside source to be made available at all these points during lighting up; the supply is taken from another engine or from the boiler washing steam lines in the engine sheds. The steam supply from the manifold to the blower is tapped into the body of the normal blower valve. By this arrangement steam from the auxiliary supply can be fed to the blower while raising steam, and, in addition, the location of the special blower valve close to the other oil-burning controls enables the fireman to operate the blower as required.

part of the firebox, and a standard brick arch is fitted to the first engine. Further experience may indicate the desirability of a shorter arch or even its abolition.

The firehole door has been re-designed to form a reasonably effective seal, and although easily opened, is effectively locked when in the shut position. A peep hole with cover is also provided.

The normal spark plates have been removed from the smokebox, while experiments are in progress to determine the best diameter for the blast-pipe orifice.

It is intended to use all the converted engines in South Wales for coal and freight traffic, and it is expected that for the tender engines runs of about 250 miles will be possible between refuellings. The tank engines will have a more limited range, as space limitations will restrict the capacity of the tank to about 850 gal.

Two refuelling depots, one at Llanelli (Fig. 4), and one at Severn Tunnel Junction are under construction, and nearly completed. At each depot the storage capacity will be 36,000 gal. of fuel oil con-

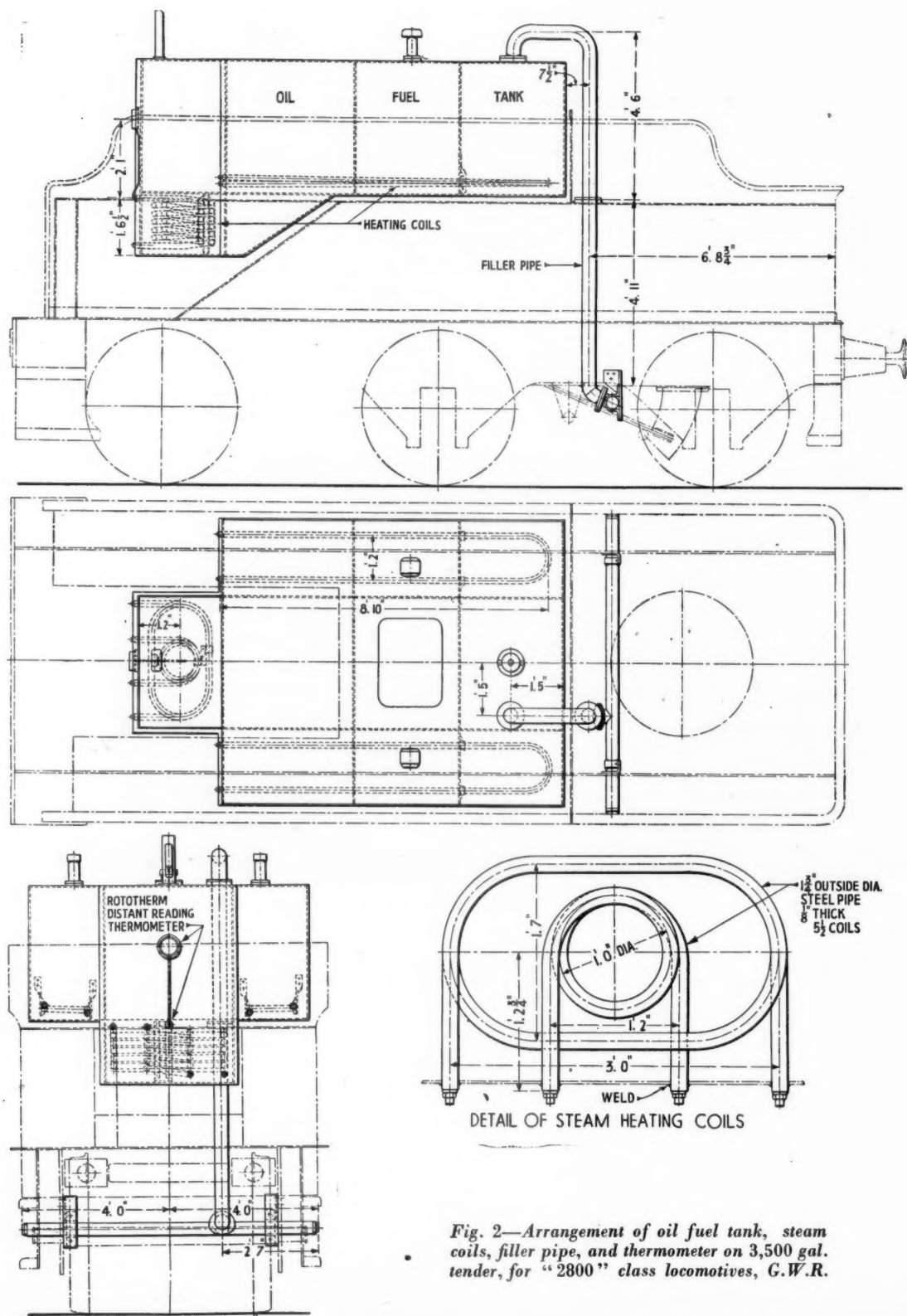
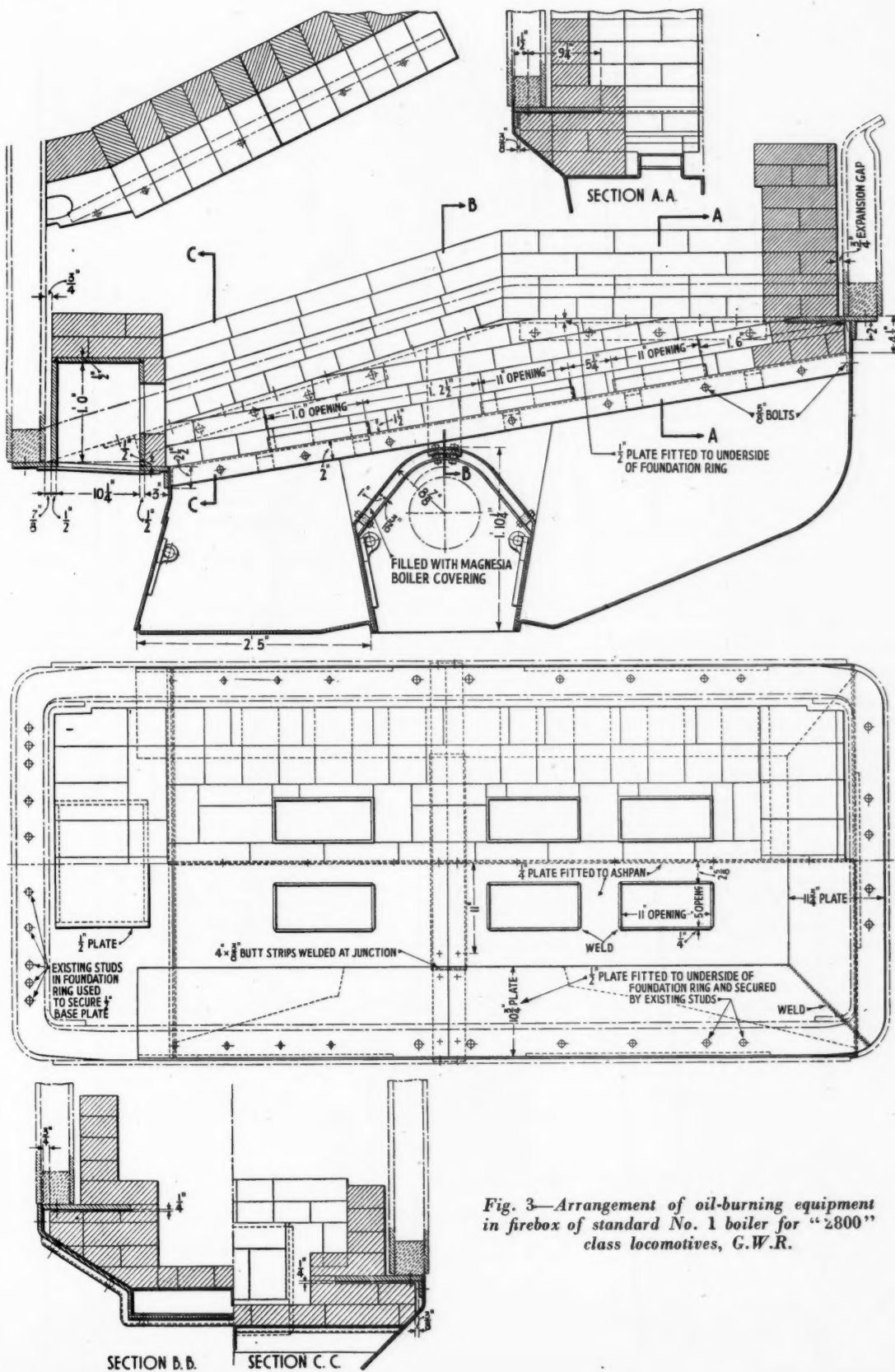


Fig. 2—Arrangement of oil fuel tank, steam coils, filler pipe, and thermometer on 3,500 gal. tender, for "2800" class locomotives, G.W.R.



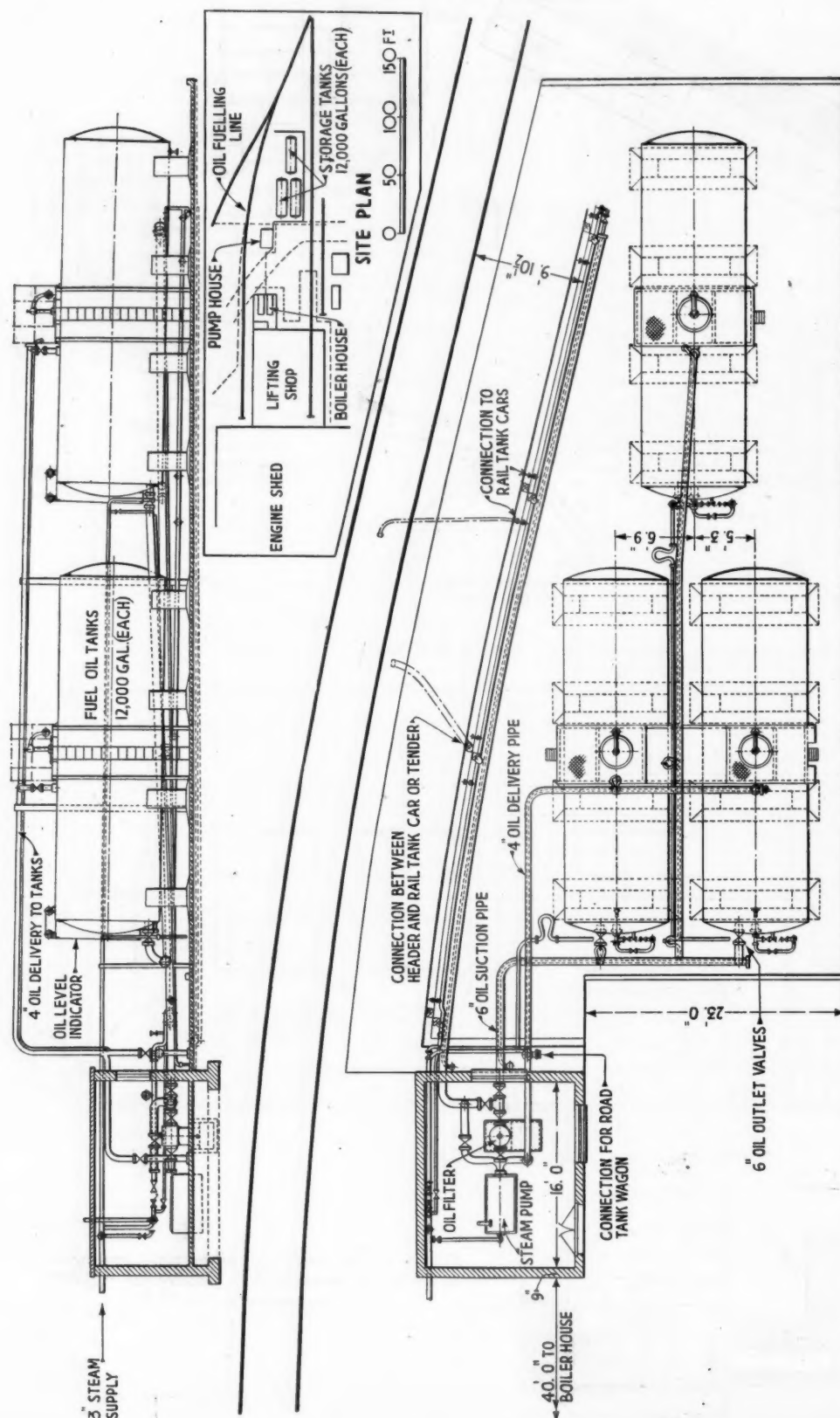
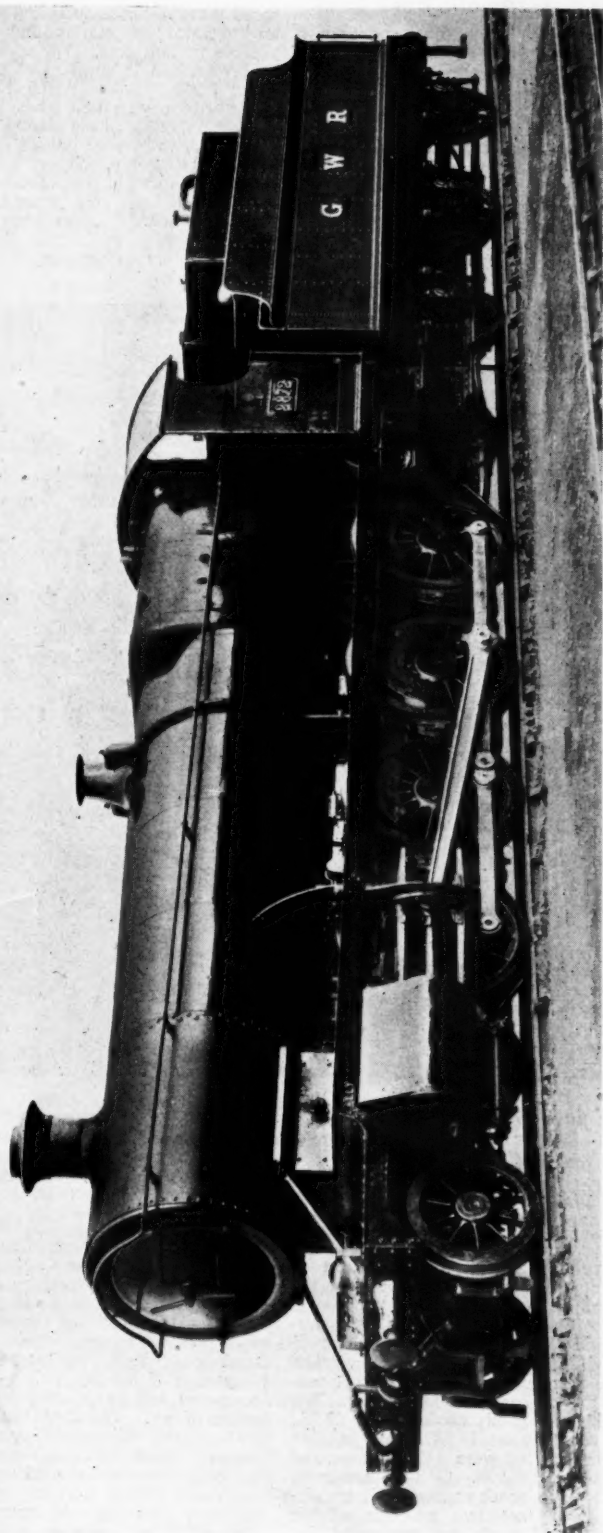


Fig. 4—Arrangement of locomotive oil-fuelling depot at Llanelly, G.W.R.



G.W.R. 2-8-0 locomotive No. 2872 after conversion from coal to oil burning

tained in three 12,000-gal. tanks, which will be replenished from travelling tanks each of 3,000 gal. capacity. The oil from the travelling tanks, four of which will be dealt with at a time, will be transferred through flexible hose pipes to the storage tanks by a steam-driven horizontal duplex pump, 8 in. \times 6½ in. \times 10 in. stroke, at an estimated rate of 10,000 gal. per hr. To render possible this rate of flow, the viscosity of the oil will be reduced by steam heating both the travelling tanks and the oil pipe lines.

For refuelling the locomotives the same pump and pipe lines will be used, but with the connections to the pump reversed. For this purpose the storage tanks will be steam heated and the temperature maintained at the required level by suitable thermostatic control apparatus.

The storage tanks for these installations have been supplied by Robert Jenkins & Co. Ltd., Rotherham, the steam pumps by J. P. Hall & Sons Ltd., Peterborough, and the flexible hose by W. H. Willcox & Co. Ltd., London.

The annual saving of coal which will be effected by the conversion of these eighteen engines is estimated to be 13,000 tons.

Jubilee of the Uganda Railway

(Concluded from page 62)

a great engineering feat, but it presented some sizeable problems all of which were successfully overcome. And despite criticism, the laying of the steel highway from coast to lake, nearly 600 miles in six years through virgin country and with a hostile indigenous population, was a worthy attainment. The original constructors, and there are still a few survivors, may well feel proud that the result of their labour has developed into one of the most successful of Colonial railways.

Traffic has grown from the 73,000 passengers carried in 1902-03 to over three millions in 1944, and from 13,000 to 2,085,000 tons of goods. The railway has played a notable part in the development of Kenya and Uganda, and has emerged successfully from two world wars in each of which—but particularly in the second—the enemy was at the gate. In the war just ended the railway has added fresh lustre to its reputation. It was called upon to carry five times the number of upper class passengers and three times the number of third class that it had been equipped to deal with in normal times. The tonnage of goods traffic was more than doubled and various complications peculiar to war conditions added to the complexities of the transport problem.

The railway, now grown to maturity, looks forward confidently to the future, assured that it can continue worthily to play its part in the forward march of the territories it serves.

TRANSPORT CENSUS IN EUROPE.—On January 10 Mr. E. R. Hondelink, Director-General of the European Central Inland Transport Organisation, gave a press conference at which he outlined measures being taken by the organisation to improve the transport systems of the Continent. He described the census which is being taken of rolling stock, details of which were given in our issue of December 14.

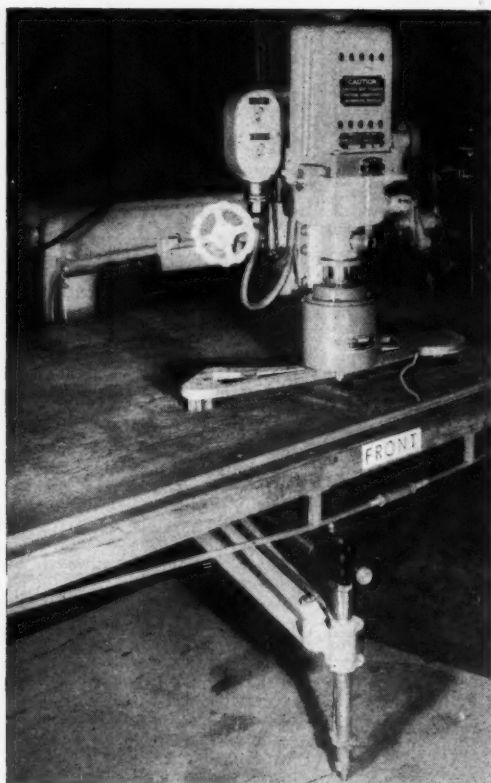
Oxygen Cutting Machines with Alternative Drives

Appliances possessing universal adaptability

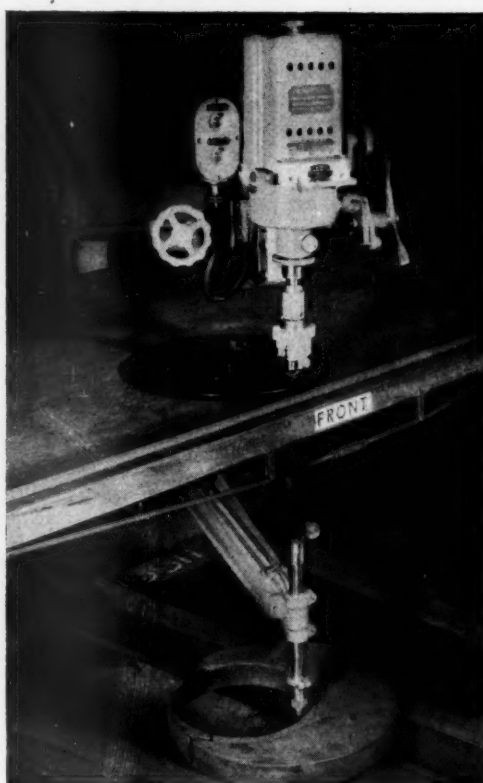
TO be of real value, a cutting machine should be adaptable to every need as a single purpose machine is too restrictive in scope to prove to be a good investment. Sooner or later the machine will be required to do other work, and it is often found that it is not worth while to make a special template or adapt the machine to the job. Hancock & Co. (Engineers) Ltd., of Croydon, which was a pioneer in oxy-coal gas cutting machines (two of which we illustrate), has maintained its leadership in the manufacture of these machines by making its products

universal in their application and readily adaptable to every type of job. For instance, the electrically driven universal tracer head fitted to all Hancock profiling machines provides a choice of five types of drive. Thus the template required can be suited to the job in hand or to facilities available for making templates. If it is required only to cut one or two parts of one shape the use of a template can be dispensed with and an electrically-driven tracer wheel guided round the outline of a drawing. All these five drives are interchangeable in a

few seconds on the universal tracer head, which runs off any standard a.c. or d.c. lighting supply and is driven by a constant-speed motor. Speed reduction and control are obtained by gearing and a variable positive friction gear. The speed can thus be pre-set and is constant at any setting. Thus, for a "one-off" the No. 1 hand tracer drive may be used, whilst for quantity production, either of the automatic template types of drive may be utilised using simple wooden, channel (wood or steel) or strip templates; for full automatic production the magnetic head may be used. All these drives are quickly interchangeable, thereby adding to the versatility of the extensive range of Hancock machines.



Cutting machine with magnetic drive fitted to tracer head



Machine with hand guided tracer drive and circle-cutting attachment

TRANS-ZAMBESIA RAILWAY.—The twenty-fifth annual general meeting of the Trans-Zambesia Railway Co. Ltd. was held at 3, Thames House, Queen Street Place, London. The Hon. M. W. Elphinstone presided in the absence of Service of Mr. Vivian L. Oury, the Chairman. The following is the statement by the Chairman circulated with the report and accounts:—The revenue account, in which are included the figures of the Southern Approach, shows that the receipts for the year ended December 31, 1944, including interest on investments £3,138, were £257,837, compared with £223,971 in the previous year, while expenditure was £159,384, or 62·58 per cent. of the gross receipts, compared with £138,770, or 62·65 per cent. of the gross receipts, for the previous year. The surplus of receipts

over expenditure was £98,453, which compared with £85,201 for 1943. Interest on the Income bonds is payable out of the net earnings of the Southern Approach, and accordingly £7,389 of the total surplus of £98,453 was applied to the payment of interest on those bonds. The tonnage of goods and the number of passengers carried continues to increase. Ten years ago the goods carried were 62,384 tons and passengers 11,949, while in 1944 the goods carried were 152,836 tons and the passengers 94,978. Of the increase of 90,000 tons in goods carried, it is gratifying to note that two products of the Colony of Mozambique accounted for over 60,000 tons, timber piles and sleepers increasing from 1,291 tons to 49,937 and sugar from 8,611 tons to 20,671. Arrangements have been made for through book-

ing and working between Beira and Tete via the Trans-Zambesia Railway, the Zambesi Bridge and the Caminho de Ferro de Tete from Dona Ana to its present terminus at Mapangali and thence to Tete by motor road service, operated by the Caminho de Ferro de Tete, pending the completion of the line to Tete which it is anticipated will be effected without much further delay. Relations with Government and the officers of Government continue to be of the most cordial nature, and fiscalisation was carried out under the supervision of the Director of Ports and Railways, Lourenço Marques, with the usual efficiency, courtesy and consideration. To the Beira Railway we are indebted for much friendly assistance.

The report and accounts were unanimously adopted.

The pointed member successfully been a and who expired of the

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RAILWAY NEWS SECTION

PERSONAL

The Minister of Fuel & Power has appointed Colonel E. Gore Browne to be a member of the Central Electricity Board, in succession to Sir Ralph Wedgwood, who has been a member of the board for 15 years and whose third term of office has now expired. Colonel Gore Browne is Chairman of the Southern Railway Company.

Sir Murrough J. Wilson has resigned from the board of the Peruvian Corporation Limited. He is Deputy-Chairman of the London & North Eastern Railway Company.

The Indian Railway Board has approved the officiating appointment of Mr. A. G. Hall, M.B.E., as General Manager of the North Western Railway when Mr. W. A. Anderson proceeds on leave preparatory to retirement at the end of February, 1946. Mr. Hall was Divisional Superintendent, Karachi, before he went to Australia on leave about seven months ago.

Mr. W. G. Wilson has been appointed Chief Mechanical Engineer, Palestine Railways.

Mr. Geoffrey Fairie has been appointed a member of the Mersey Docks & Harbour Board, in succession to Mr. R. M. Easton, who has resigned.

Sir Harry Trusted (late Colonial Legal Service) has been appointed Secretary of the Association of Consulting Engineers, in place of Mr. E. W. Baynes, C.B.E., who has retired.

ORDER OF ST. JOHN

Among promotions in, and appointments to, the Venerable Order of the Hospital of St. John of Jerusalem, recently sanctioned by the King, are those of:—

As Knights: Sir William Patrick Spens (formerly Director, Southern Railway Company); Sir Francis L'Estrange Joseph (Director, London Midland & Scottish Railway Company); Brigadier Charles Mitchell Hoffe (lately General Manager, South African Railways & Harbours).

As Commanders (Brothers): Lt.-Colonel Victor Michael Barrington-Ward (Divisional General Manager, Southern Area, L.N.E.R.); Mr. Robert Charles Vaughan (Chairman & President, Canadian National Railways).

As Associate Commander (Brother): Viscount Southwood (Chairman, Odhams Press Limited); Chairman of the Red Cross Penny-a-Week Committee of H.R.H. the Duke of Gloucester's Fund).

As Officers (Brothers): Mr. William Alexander Anderson (General Manager, North Western Railway, India); Brigadier Sir George Steven Harvie Watt (Director, Great Western Railway Company); Mr. Roland Melville Treen Richards (Traffic Manager, Southern Railway).

As Serving Brother: Mr. Henry George Rampling (District Superintendent, Norwich, L.N.E.R.).

Mr. Henry Gibson recently retired from the position of Managing Director of Metropolitan Railway Country Estates Limited, but remains a Director. Mr. W. M. Balch becomes Managing Director.

Mr. A. P. Ross, M.Inst.C.E., who retired on January 1 from the position of Chief Stores Superintendent, L.N.E.R., is the eldest son of the late Mr. Alexander Ross, formerly Chief Engineer, Great Northern Railway. Mr. A. P. Ross was educated at Manchester Grammar School and at University College, London. He afterwards became Assistant to Mr. William Marriott on the Midland & Great Northern Joint Railway, and afterwards on the South Yorkshire Joint Rail-



Mr. A. P. Ross

Chief Stores Superintendent, L.N.E.R.,
1929-46

way. In 1912 he became Assistant Engineer, Kings Cross, Great Northern Railway. In 1917 Mr. Ross was appointed Engineer to the Cheshire Lines Committee, of which he was appointed also Manager in 1926. He relinquished his positions as Manager & Engineer, C.L.C., in 1929, to become Chief Stores Superintendent, L.N.E.R. Mr. Ross has been Chairman of the Stores Committee of the Railway Executive Committee since 1938.

The late Mr. C. F. Dendy Marshall, M.A., M.I.Loco.E., the well-known writer on railway subjects, left £42,111.

Dr. Harold Hartley, the Technical Director and a Managing Director of Radiation Limited, has been elected President of the British Cast Iron Research Association.

Lt.-Colonel H. Riggall (a Director of Ruston & Hornsby Limited, and associated companies) has been elected President of the British Engineers' Association, in succession to Mr. Cecil Bentham.

LONDON PASSENGER TRANSPORT BOARD
Mr. A. H. Hawkins, General Manager (Country Buses & Coaches), will retire on March 1, 1946. He will be succeeded by Mr. B. H. Harbour, who has been appointed Operating Manager (Country Buses & Coaches). Mr. Harbour was formerly Commercial Manager.

Mr. A. B. B. Valentine, formerly Chief Supplies Officer, has been appointed Chief Commercial Officer, and, in addition to retaining his responsibility for the Supplies Department (purchasing and stores), will be responsible for fares and charges, traffic development, and the commercial advertising work of the Board.

The posts of Commercial Manager and Chief Supplies Officer have been abolished.

The following announcement appears in the Supplement to *The London Gazette*, dated December 25, 1945, under the heading of Territorial Army—Royal Engineers: Engineer & Railway Staff Corps:—

Major S. H. Fisher to be Lt.-Colonel, October 13, 1945.

Colonel Fisher is Chief Operating Manager, L.M.S.R.

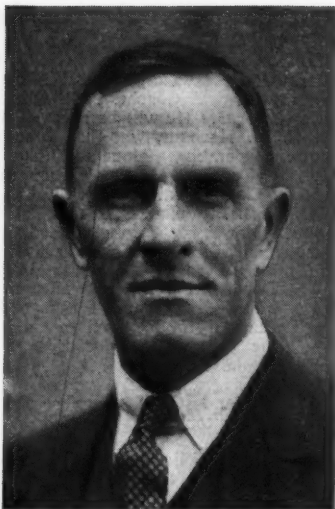
The following announcement appears in the Supplement to *The London Gazette*, dated December 25, 1945, under the heading of Territorial Army—Royal Engineers: Engineer & Railway Staff Corps:—

Lt.-Colonel Victor Michael Barrington-Ward, C.B.E., D.S.O., late Supplementary Reserve of Officers, to be Lt.-Colonel, October 17, 1945.

Colonel Barrington-Ward is Divisional General Manager (Southern Area), L.N.E.R.

The Minister of Supply has agreed to the release of Sir Geoffrey D. Burton from his appointment as Director-General of Mechanical Equipment.

Mr. F. H. Colebrook, M.C., A.M.Inst.C.E., who, as recorded in our December 14 issue, has been appointed Purchasing Agent, L.N.E.R., responsible to the Chief General Manager for (a) co-ordinating the company's purchasing, and (b) the operation of the Stratford Printing Works, was educated at Christ's Hospital, West Horsham. In 1906 he was articled to the late Mr. Edmund J. Cullis, of Gloucester, and was engaged on dock works, reinforced-concrete bridges and structures, and general engineering works. He was employed with Taylor, Wallin & Taylor, Civil Engineers, Newcastle-on-Tyne, for a short period in 1910, and in December of that year joined the former North Eastern Railway as an Assistant in the District Engineer's Office, Northumberland District, where his duties were mainly in connection with bridges, coal shipping staiths and their equipment, and other structural works. He served overseas with commissioned rank in France during the war of 1914-18, with the 10th Bridging Train, 560th Company, R.E., and 10th and 296th Railway Construction Companies, R.E., and was awarded the Military Cross. After demobilisation in 1919 he resumed his duties with the N.E.R., and in 1921 was promoted to be Chief Draughtsman in the District Engineer's Office, Bishop Auckland, where his principal



Mr. F. H. Colebrook

Purchasing Agent, L.N.E.R., responsible to Chief General Manager

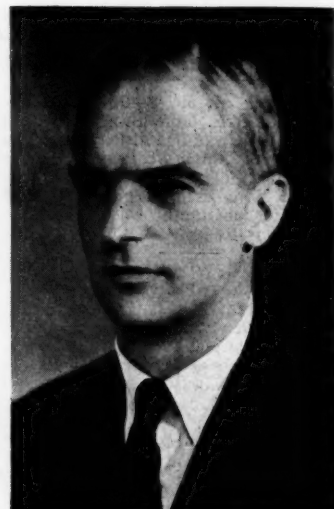
work was the preparation of detailed drawings for permanent way work, and the supervision of permanent-way renewals. In 1924 he was transferred to Darlington, and in 1926 was appointed Assistant District Engineer under Mr. J. C. Valentine. Mr. Colebrook returned to Newcastle in 1927, on his appointment as Assistant District Engineer to Mr. F. E. Harrison in the Newcastle District. He was appointed District Engineer, Hull, in 1937, and District Engineer, York, in May, 1939. During the greater part of the recent war Mr. Colebrook, in addition to the normal work of maintenance and renewal on an important section of the L.N.E.R., had to carry out a large number of extensions for war purposes, and to make good a considerable amount of damage from enemy action. At the end of 1944 he was appointed Purchasing Agent, with responsibility under the Chief Stores Superintendent for purchases, delivery and sales, among other matters.



Mr. Arthur Lane

Appointed Chief of Police, G.W.R.

Mr. Arthur Lane, Assistant Chief of Police, Great Western Railway, who, as recorded in our November 30 issue, has been appointed Chief of Police, entered the company's service in 1903. He commenced his police career in 1911 and a few years later was promoted Detective Inspector in charge of the London District. During the war of 1914-18 he joined the Detective Branch of the Provost-Marshall's organisation at G.H.Q., Montreuil-sur-Mer, and carried out criminal investigation duty. He brought to justice two murderers of British soldiers in his area. He was awarded the Meritorious Service Medal in recognition of valuable services with the armies in France and Flanders. In 1920 Mr. Lane joined the staff of the Solicitor, G.W.R., and for 16 years was attached to the Common Law & Prosecution Section with the duty of investigating matters likely to involve litigation; preparing and attending civil actions in the



Mr. M. G. Bennett

Appointed Manager, General Research Department, Watford H.Q., L.M.S.R.

Supreme Courts; and preparing bills of costs and attending taxation. He also attended criminal cases committed to the Courts of Assize or Quarter Sessions. For some years he prepared the evidence in matters heard before the Standing Arbitrator appointed by the Lord Chancellor under the Third Schedule of the Railways Act, 1921. Mr. Lane was appointed Assistant Chief of Police in 1936, with the primary duty of revising the system of submitting evidence. In this connection more than 23,000 successful prosecutions have passed through his hands during the past ten years. With the view of ensuring effective co-operation between the civil and railway police in the provinces, Mr. Lane has been a regular delegate at Special Branch and detective conferences for the Southern Region, and in 1943 he was invited to address Southern Command Fourth Police Conference at Winchester on the history, functions and statutory powers of railway police. He is a member of the Chief Constables' Association (No. 6 District).



Mr. J. H. Brebner

Appointed Chief Public Relations & Publicity Officer, L.P.T.B.

Mr. Maurice George Bennett, M.Sc., F.Inst.P., Lighting & Heating Assistant, Chief Civil Engineer's Department, L.M.S.R. who, as recorded in our January 4 issue, has been appointed Manager, General Research Department, Watford H.Q., took his B.Sc. degree with honours in physics in 1922 at Bristol University, and for two years was engaged in wireless research for H.M. Government. In 1924 he obtained his M.Sc. degree. In that year also he returned to Bristol University, where he lectured in physics and also carried out research in visibility for the War Office. In 1930 a Government inter-departmental committee on visibility was formed, and Mr. Bennett was appointed its Research Officer, with headquarters at Kew Observatory (Meteorological Office). He entered the service of the L.M.S.R. in 1934 as Technical Assistant in the Lighting Section, and in an advisory capacity for the Research Department in regard to Physics. In 1935 the Physics Section of the Research Department was formed, and Mr. Bennett was appointed to take charge of this. In 1936 the lighting and heating work was combined to form a new section of the Chief Civil Engineer's Department, and Mr. Bennett was placed in charge with the title of Lighting & Heating Assistant to the Chief Civil Engineer.

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Mr. F. S. Whalley, M.C. (Vice-Chairman & Managing Director of the Vulcan Foundry Limited, and President of the Locomotive Manufacturers' Association), has been nominated President of the Institution of Locomotive Engineers for 1946-47.

Mr. Robert Foot, Chairman of the Mining Association, has been appointed Chairman also of the Council of the British Coal Utilisation Research Association, in place of Mr. H. M. Lindars, who has felt compelled to resign on account of the pressure of other claims on his time.

We regret to record the death on January 11, as the result of an accident at Hamburg, Germany, of Captain Philip Montague Shearman, R.A.S.C., son of Mr. John Shearman, Road Motor Engineer, L.M.S.R.

Mr. Mark M. Cansick, formerly Commercial Manager & Publicity Manager of Specialoid Limited, has been appointed Secretary. Mr. Cansick will continue to handle the publicity affairs of the company.

Mr. J. H. Brebner, O.B.E., who, as recorded in our January 11 issue, has been appointed Chief Public Relations & Publicity Officer, London Passenger Transport Board, was associated in 1929 with the late Sir Kingsley Wood, then Postmaster-General, in popularising the Post Office services by the introduction of greetings telegrams, "Tim"—the speaking clock, the Brighter Post Office campaign, and other services. For his work with the Post Office, Mr. Brebner was awarded the M.B.E. In 1937, he was appointed a member of the official committee for the creation of the Ministry of Information and was designated Director of the News Division, a position which he has held up to the present under seven Ministers. The organisation which he created for the distribution and handling of news throughout the world has earned the praise of all sections of the Press, including British Empire, American and foreign editors. For these services he was made an O.B.E. Since 1943, Mr. Brebner, in addition to his duties as Director of the News Division, Ministry of Information, has been engaged on special missions, many of them overseas. In the early part of 1943 he was appointed Adviser to the Minister of State, Middle East, and during his stay at Cairo arranged press conferences for Mr. Winston Churchill and other ministers, and organised newspapers for the Forces and a special service of home news. He was appointed also by the Minister of State as the head of an Anglo-American Mission to General Eisenhower. In 1944 Mr. Brebner was placed in charge of press relations in connection with the King's visit to his troops in Italy, and accompanied the King during the whole of his tour. In the same year he was appointed Executive Chairman of the Anglo-American committee, comprising Mr. David Sarnoff, President, Radio Corporation of America, and Mr. George Lyon, the personal representative of the American Minister of Information, which organised successfully the distribution of millions of words of news, describing the landings in France on D-Day. To achieve this Mr. Brebner had under his control the entire communications resources of this country, including all the cable companies to the Empire, the U.S.A., and the world. Also in that year he was appointed the first United Kingdom Press Officer in charge of press relations of the Imperial Prime Ministers' Conference. In November, 1944, General Allen (United States), Chief of S.H.A.E.F., asked the Minister of Information, Mr. Brendan

Bracken, for the loan of Mr. Brebner's services to re-organise the press communications and press facilities in Paris, Brussels, Copenhagen and throughout Europe. This mission was accomplished successfully, and recently Mr. Brebner was invited by the Czechoslovak Government to visit Prague, where he was received by President Benes and the Prime Minister. By the acceptance of his new appointment with the London Passenger Transport Board, Mr. Brebner has had to resign from the Civil Service, in which he has passed all his career.

L.M.S.R. STAFF CHANGES

Mr. B. J. Perkins, District Controller, Heaton Norris, to be Assistant District Operating Manager, Manchester (Western).

Mr. J. Fairclough, Assistant District Controller, Heaton Norris, to be Assistant to District Operating Manager, Manchester (Western).

Mr. A. W. S. Walker, District Controller, Workington, to be Assistant District Operating Manager, Barrow (located Workington).

Mr. E. Lord, Assistant District Controller, Barrow, to be Assistant District Operating Manager, Barrow.

Mr. P. G. Price, Assistant District Goods & Passenger Manager, Bristol, to be Assistant District Goods & Passenger Manager, Derby, in place of Mr. E. Whitehouse, retired.

Mr. R. C. Charlesworth, Assistant District Controller, Preston, succeeding Mr. P. G. Price as Assistant District Goods & Passenger Manager, Bristol.

Mr. T. Mitchener, Chief Rates & Commercial Clerk, District Goods & Passenger Manager's Office, Bristol, to be Passenger Assistant to District Goods & Passenger Manager, Bristol.

Mr. J. Hollingworth, Assistant District Goods & Passenger Manager, Chester, to be Assistant District Traffic Manager (Commercial & Goods Operating), Chester.

Mr. A. E. S. Bayley, Passenger Assistant to District Goods & Passenger Manager, Chester, to be Passenger Assistant to District Traffic Manager, Chester.

Mr. R. Evans, Goods Agent, Longport, to be Goods Agent, Stockport, in place of Mr. R. A. Blood, retired.

Mr. A. McCulloch, Assistant Stationmaster, Glasgow (Central), to be Stationmaster, Glasgow (Buchanan Street), in place of Mr. D. Balfour, deceased.

Mr. R. G. Ellis, Assistant Stationmaster, Preston, to be Yardmaster, Camden, in place of Mr. F. W. Reynolds, retired.

Mr. A. M. Todd, Assistant, Office of Divisional Superintendent of Operation (Motive Power), Derby, to be District Locomotive Superintendent, Skipton.

Mr. C. J. North, Assistant District Locomotive Superintendent, Swansea, to be Assistant District Locomotive Superintendent, Willesden, in place of Mr. A. H. Peet, promoted.

Mr. A. G. Goodman, Running Shed Foreman, Barrow, succeeding Mr. C. J. North as Assistant District Locomotive Superintendent, Swansea.

Mr. C. Scott, Assistant to District Engineer, Perth, to be New Works Assistant, Divisional Engineer's Office, Glasgow, in place of Mr. B. E. B. Walker, promoted.

Captain W. S. Morrow, to be Assistant to Chief Marine Superintendent, Watford H.Q.

Mr. T. W. Ratcliffe, Chief Clerk, Carriage & Wagon Accounts, Chief Accountant's Department, Earlestown, to be Works Accountant, Carriage & Wagon Accounts, Chief Accountant's Department, Earlestown, in place of Mr. H. Bradshaw, retired.

Sir Clive Baillieu, President of the Federation of British Industries, has been nominated for a second year of office. This nomination will come before the annual general meeting of the Federation in April. It has been decided that Sir Guy Locock, the retiring Director, be recommended for election at the annual general meeting as a Vice-President of the Federation. The newly-appointed Director-General of the F.B.I., Sir Norman Kipping, will take office on February 1.

Sir William Hildred has accepted an invitation to become Director-General of the International Air Transport Association on April 1, and will shortly retire from the post of Director-General of the Ministry of Civil Aviation. Sir Henry Self will succeed Sir William Hildred, with the rank of Permanent Secretary of the Ministry of Civil Aviation, and will take up his duties after the discussions in Bermuda have been concluded.

Mr. John William Belcher, M.P., has been appointed Parliamentary Secretary, Board of Trade, in succession to Mr. Ellis Smith, M.P., who has resigned. Mr. Belcher is M.P. for the Sowerby (West Riding) Division of Yorkshire. He has been Secretary for 10 years of the Smithfield Branch of the Railway Clerks' Association, and until the General Election was a junior representative in the London District Goods Manager's Office, Great Western Railway.

Mr. H. A. Marquand, M.P., Secretary for Overseas Trade, has appointed Mr. R. L. J. Wills to be his Private Secretary, in succession to Mr. C. C. I. Lambert.

SOUTHERN RAILWAY STAFF CHANGES

Chief Civil Engineer's Department

Mr. N. E. V. Brady, General Purposes Officer, General Manager's Office, Waterloo, to be Assistant Divisional Engineer, Exeter.

Chief Mechanical Engineer's Department

Mr. M. S. Hatchell, Works Manager, Ashford, to be Assistant to Chief Mechanical Engineer, Brighton.

Mr. J. E. Bell, Assistant Works Manager, Brighton, to be Works Manager, Ashford.

RAILWAY AIR APPOINTMENTS

The following announcement has been made on behalf of the Air Committee of the British railways:—

Consequent on the resignation of Sir Harold Hartley of his Directorships in the rail-air group of companies and of the Chairmanship of Associated Airways Joint Committee (which operates the companies' internal air network by agreement with the Ministry of Civil Aviation) and of the Air Committee of the British railways, the following appointments have been made:—

To be Chairman of Associated Airways Joint Committee and of the Air Committee of the British railways: Mr. J. Elliot (Chairman, Great Western & Southern Air Lines Limited).

To be Chairman of Olley Air Services Limited (the rail-air charter company), Air Commerce Limited and Air Booking Limited: Mr. K. W. C. Grand (Chairman, Channel Islands Airways Limited).

To be Chairman of Railway Air Services Limited: Mr. G. Morton.

To be Chairman of West Coast Air Services Limited: Mr. G. L. Darbyshire.

To be Chairman of Isle of Man Airways Limited: Mr. H. G. N. Read, in succession to Mr. W. P. Bradbury, resigned.

Sir Frank Nixon has been elected a Director of John Brown & Co. Ltd. He will become Chairman of a special export company which is being formed to promote the export trade of John Brown & Co. Ltd., Thos. Firth & John Brown Limited, and their subsidiary and associated companies. Sir Frank Nixon, formerly Head of the Export Credits Guarantee Department, has been a Managing Director of the United Kingdom Commercial Corporation Limited during the war. He is relinquishing that post and the Treasury also has agreed to release him from the Civil Service. He will remain, however, on the board of the United Kingdom Commercial Corporation and on the council of the Export Credits Guarantee Department.

We regret to record the death on January 6, in his 79th year, of Mr. Charles Alexander Weekes, Barrister-at-Law, who was concerned with the late Mr. D. N. Dunlop in the founding of the British Electrical & Allied Manufacturers' Association, and was for many years Legal Adviser & Secretary to the Council.

CANADIAN PACIFIC RAILWAY

Mr. T. W. Thorne, General Agent of the Canadian Pacific Railway at Bristol since 1934, has retired. He has been succeeded by Mr. H. Healey, formerly Chief Accountant at Liverpool. Mr. G. Ryder, formerly Accountant, Southampton, succeeds Mr. Healey.

The late Captain Richard Sharp, who was Marine Superintendent, Great Western Railway, from 1920 until 1926, left £695.

The directors of Crompton Parkinson Limited announce the following changes in the direction and management of the company:—Mr. A. Parkinson ceases to be Vice-Chairman & Joint Managing Director, but retains his seat on the board. Mr. E. C. Holroyde ceases to be a Joint Managing Director, but retains his seat on the board. Mr. F. Le Neve-Foster ceases to be a Director. Mr. J. Harwood Fryer has been appointed a Director, also a Joint Managing Director; he ceases to be an Executive Director and the Secretary of the company. Mr. C. F. Dickson has been appointed a Director and ceases to be an Executive Director. Mr. T. H. Windibank has been appointed a Director and ceases to be an Executive Director. Mr. H. Fawcett has been appointed Secretary, and Mr. J. C. Holmes, Chief Accountant.

We regret to record the death of Mr. Ernest A. C. Dell, Chief Draughtsman, Tecalemit Limited.

Mr. A. F. Moss, District Superintendent, Nottingham, L.N.E.R., who, as recorded in our December 14 issue, has been appointed District Superintendent, Glasgow, joined the Advertising Department, York, North Eastern Railway, in 1907, as a clerk. Later he served at Starbeck and Leeds, before joining H.M. Forces in December, 1914. He resumed his railway activities at Wolsingham in May, 1919, and occupied in succession positions as Relief Stationmaster; Staff Clerk, Superintendent's Offices, York and Hull; Traffic Agent, New Bridge Street, Newcastle; Staithes Superintendent, Blyth; Yardmaster, Hull; Goods Agent, Newcastle; and Assistant District Goods Manager, Newcastle. In January, 1943, Mr. Moss was appointed Acting District Goods & Passenger Manager, Peterborough. In January, 1944, he became Acting District Superintendent, Manchester, and in May, 1945, District Superintendent, Nottingham.

The New Year Honours List

The following is a selection, further to those published in our January 4 and 11 issues, of the honours announced in the New Year list:—

O.B.E. (Civil Division)

Mr. Samuel Bower, Superintendent, Vickers-Armstrongs Limited.

Mr. Edward Bernard Bull, Managing Director, Welwyn Electrical Laboratories Limited.

Mr. John Caldwell, Chief Staff Officer & Accountant, Ministry of War Transport.

Miss Margaret Bertha Alice Churchard, Principal, Ministry of War Transport.

Mr. Frederick Bayes Copeman, Shelter Manager, Deep Tube Shelters, London.

Mr. Edward Henry Edwardes, A.M.I.E.E., Managing Director, Lancashire United Transport & Power Co. Ltd.

Mr. George Daniel Frazer, Principal, Ministry of War Transport.

Mr. Tom Hands, Manager, British Thomson-Houston Co. Ltd. (Willesden Works).

Captain Clifford Higgins, M.I.E.E., Joint Manager, General Electric Co. Ltd. (Shaw) Factory.

Mr. John Leslie Hilton, M.I.Mech.E., Chief Engineer, Hoffmann Manufacturing Co. Ltd.

Captain William Francis Mason, Master, ss. *Dinard*, Southern Railway.

Mr. Percy Nunn, Divisional Superintendent, London (East), Southern Railway.

Mr. William Herbert Peters, Assistant General Manager, Telephone & Radio Works, Coventry, General Electric Co. Ltd.

Mr. Ernest Pickles, Chief Engineer, ss. *Duke of Argyll*, L.M.S.R.

Mr. Ernest Pugsion, Principal Assistant for Carriages & Wagons to Chief Mechanical Engineer, L.M.S.R.

Captain Charles Elly Rose Sherrington, M.C., Secretary, Railway Research Service.

Mr. William Arthur Cohen Snook, Acting Chief Engineer (Buses & Coaches), L.P.T.B.

Mr. John Charles Wade, Joint Manager, General Electric Co. Ltd. (Shaw) Factory.

Mr. James Harker Wears, Works Manager, English Electric Co. Ltd.

M.B.E. (Civil Division)

Mr. David Anderson, Chemical Engineer, Imperial Chemical Industries Limited (Alkali Division).

Mr. Henry Atkinson, Shop Superintendent, English Electric Co. Ltd.

Mr. John George Bailey, Works Manager & Director, A. A. Jones & Shipman Limited.

Mr. James Gladstone Bain, Executive Assistant, L.P.T.B.

Mr. Ernest George Blaiklock, Assistant Manager, Vickers-Armstrongs Limited.

Mr. Norman Reginald Boorman, Superintendent, British Thomson-Houston Co. Ltd., Newcastle-under-Lyme.

Mr. John Spendlove Borrington, Factory Superintendent, British Thomson-Houston Co. Ltd.

Mr. Raymond John Bown, Liaison Officer, Imperial Chemical Industries Limited. For services to the War Office.

Mr. Gerald Merlier Burnell, Works Manager, Cork Manufacturing Co. Ltd.

Mr. Collingwood Cooper, Staff Assistant to Traffic Officers, York, L.N.E.R.

Mr. Robert Dixon, Assistant to Chief Docks Manager, Great Western Railway.

Mr. Gerard Doorakkers, Sales Manager, Sheepbridge Stokes Centrifugal Castings Co. Ltd.

Mr. Claude Vincent Dunkley, Head of Out-of-Gauge Load Section, Chief Civil Engineer's Department, Watford H.Q., L.M.S.R.

Mr. Thomas William Fisher, Works Superintendent, Hydraulic Coupling & Engineering Co. Ltd.

Mr. Stanley James Godfrey, Head of Freight Train Running Section, Great Western Railway.

Mr. William Herbert Grinstead, M.I.E.E., Chief Engineer, Telephones, Siemens Bros. & Co. Ltd.

Mr. Arthur Jarrams Hall, Chief Maintenance Engineer, English Electric Co. Ltd.

Mr. Smith Harrison, Manager, Bomb & Shell Department, Charles Roberts & Co. Ltd.

Mr. Percy Reginald Harwood, Assistant Director, Denny, Mott & Dickson Limited.

Mr. George Edward Creighton Hill, Chief Production Engineer, Meter Department, Metropolitan-Vickers Electrical Co. Ltd.

Mr. Frank Lionel Howard, Running Shed Superintendent, Bricklayers Arms Depot, Southern Railway.

Mr. Edward Jackson, Experimental Engineer, Dunlop Rim & Wheel Co. Ltd.

Mr. Vincent Tattersall Jones, Production Manager, Automatic Telephone & Electric Co. Ltd.

Mr. Joseph John Killingback, lately District Controller, Fenchurch Street, L.M.S.R.

Mr. John Joseph Lambert, Dredging Superintendent, Hull, L.N.E.R.

Mr. James Lorimer, District Goods & Passenger Manager, Dundee, L.N.E.R.

Mr. Arthur Henry Lower, Production Superintendent, Cosmos Manufacturing Co. Ltd.

Mr. Matthew McBryde, Senior Electrician, ss. *Empress of Scotland*, Canadian Pacific Steamships Limited.

Mr. George Albert Mayhew, Forge Department Manager, Ransomes, Sims & Jefferies Limited.

Mr. Harry Talkington Millar, Sales Engineer, Churchill Machine Tool Co. Ltd.

Mr. Joseph Alexander Wallace Mills, Manager, A. Reyrolle & Co. Ltd.

Mr. William John Morgan, Association Secretary, Machine Tool Trades Association.

Mr. Albert George Nightingale, lately Harbour Engineer, Lowestoft, L.N.E.R.

Mr. Joseph Arthur Collingwood Picknell, lately Railway Transport Officer, Ministry of Fuel & Power.

Mr. Edward Arthur Richards, M.I.Mech.E., Chief Rectifier Engineer, Standard Telephones & Cables Limited.

Mr. Frank Thomas Roach, Stationmaster, Brighton, Southern Railway.

Mr. George Edward Shakeshaft, A.M.I.Mech.E., Works Superintendent, C.A.V. Limited.

Miss Dorothy Thompson, Personal Secretary to Chairman, Railway Executive Committee.

Mr. Thomas Alfred Wilkinson, Works Manager & Chief Engineer, Lancashire Steel Corporation Limited.

Mr. Thomas Winter, Mill Manager, Bromford Works, Stewarts and Lloyds Limited.

Mr. George Woodvine, Managing Director, Sentinel (Shrewsbury) Limited.

Mr. Allan Yeaman, District Goods & Passenger Manager, Inverness, L.M.S.R.

INSTITUTION OF MECHANICAL ENGINEERS

Among those recently elected members of the Institution of Mechanical Engineers is Mr. T. E. Chrimes (Superintendent of Motive Power, Southern Railway). Those recently transferred from associate membership to membership include Mr. J. D. Lewis, M.C. (General Manager, Darlington Works, Robert Stephenson & Hawthorns Limited).

Mr. R. D. Orrell has been appointed Chief Traffic Manager, Mersey Docks & Harbour Board.

Some Notes on the "Merchant Navy" Class Locomotives of the Southern Railway*

Summary of the discussion on Mr. Bulleid's paper to the Institution of Mechanical Engineers

MR. JAMES HADFIELD, in opening the discussion, referred to the rather low ratio of the free gas area through the boiler tubes to the grate area (12.6 per cent.). For really free steaming, with good quality coal, a ratio of 14-16 per cent. would be preferable. The ratio of swept surface to area through the tubes was 510 for the flues and 410 for the small tubes as against a normal figure of 400. That emphasised the loading gauge limitations, as to decrease the figure of 510 for the flues would mean a reduction in length between tube plates and hence in heating surface.

The steam speed through the main steam pipe would appear to be about 60 ft. per sec., and through the superheater elements about 70 ft. per sec.; both speeds were comparatively low and suggested that fairly high steam temperatures should be attained.

Having been responsible for the manufacture of the thermic syphons, he was glad to learn that they had proved satisfactory. As to the difficulty experienced in pressing the openings in the throat plate for the syphon necks, some improvement might be made in the design of the press blocks.

The arrangement of the valve gear was stated to reduce the unsprung weight by 1,126 lb. He thought, however, that the Bulleid gear would weigh more than a well-designed orthodox Walschaerts gear. Excluding the chain drives, there were 13 pins between the three-throw shaft and the outside piston valve, as against eight in the normal Walschaerts gear. Moreover, the Bulleid gear introduced a rocking shaft at each valve, and as levers of the rocking shaft had a ratio of about 2½ to 1, any wear in the numerous pin joints would appear to result in some lost motion of the valve.

Mr. R. D. Metcalfe referred to the fitting of both injectors on the fireman's side in these engines. The vacuum ejector exhaust was led into the cavity of the blast pipe casing, so helping to prevent char from being drawn into the blast pipe.

Mr. T. Henry Turner observed that as mechanisms were perfected they tended to become simpler in appearance, their components became fewer, and their operation almost free from vibration. The "Merchant Navy" locomotives followed that rule, but he regretted that their fuel was still one which polluted the atmosphere and that the water was still the unsoftened natural supply.

Having seen tubes removed from the "Merchant Navy" locomotives, he could confirm that they seemed fit to be put back into the locomotives; there was extremely little pitting, corrosion, or damage to them, no doubt due to the care taken in washing out and to the omission of copper so that electrolytic action was reduced in boiler and firebox.

The ingenious cast-steel wheels bridged the gaps and stopped the rocking; the place where nearly all tyres broke was well supported; and his only criticism was to suggest a slightly larger radius for the inside edge of the tyre, to match the outside edge. He hoped the author would persist in his attempts to make an "oil bath" motion; it was worth doing because the consequences of hot axleboxes and big-ends were far-reaching.

Wing-Commander T. R. Cave-Browne-Cave referred to the work done at University

College, Southampton, on the shape of the front of the locomotive. The original design allowed air to escape through the opening, backwards over the chimney, but the side plates came so far forward that they trapped an enormous quantity of air which overflowed and gave rise to an area of low pressure down the side of the locomotive, causing steam to be drawn down. The cure was to allow a considerable amount of air to pass between the smokebox and the side plates, and to increase the opening so that a large quantity of air could pass over the chimney and give a really high speed over the outlet. It was the avoidance of the escape of air round the outside which, he thought, was the most important factor. He wondered whether, with the present design, there was a better draught in the chimney than with the original.

The oil flow in the enclosed gearbox was so copious that there was probably more leakage than was really necessary, and also, possibly, much more oil heat. It would be interesting to see whether, by putting much less oil through, and only where it was essential, would give greater freedom from leakage and enable oil heating trouble, if any were experienced, to be avoided.

Mr. W. Cyril Williams thought that the author had shown great ingenuity in overcoming loading-gauge restrictions which in turn had affected the design. The great limitations of the British loading gauge were emphasised by the fact that the South African loading gauge (with a rail gauge of 3 ft. 6 in.) gave a width of 10 ft. instead of 9 ft. as in this country. In view of possible need for a further increase in tractive effort and boiler power, he drew attention to the potentialities of the articulated locomotive, particularly the Garratt type, which seemed to be the only existing type in which complete freedom was given for the design of the boiler. The Algerian Railway's double-Pacific Beyer-Garratt standard-gauge express locomotives had a boiler-barrel diameter of 7 ft. 3 in. as against a maximum of 6 ft. 3½ in. for the author's locomotive. The Algerian engines had a tractive effort of 58,000 lb. at 75 per cent. boiler pressure, compared with the 37,500 lb. of the "Merchant Navy" type.

He asked why steam-operated rocking firebars were not fitted to the "Merchant Navy" locomotives. The grate area, 48½ sq. ft., was approaching the limit (set at 50 sq. ft. in the U.S.A.) for one fireman; did the author feel that the mechanical stoker was not very far off? The steam reversing gear was a welcome feature.

Mr. R. H. P. Nott remarked that in engines not having steam-operated firedoors, it was usual to leave the door open during most of the run, with the result that cold air was drawn in over the top of the fire. Presumably that was not permissible with "Merchant Navy" locomotives, because of possible damage to the syphons and steel firebox, but with a copper firebox he understood that the excess air passing over the fire promoted combustion. If so, could anything be done to improve over-fire air admission in a normal firebox, while at the same time having a steam-operated firedoor? With a steel firebox, pressures of 300-325 lb. per sq. in. would seem possible; with the streamlining of the steam passages and the author's new valve gear, might not the case for compounding be considered?

Mr. W. F. MacDermid said that just before

1900 he had had trouble with fireboxes and stays—copper and bronze—and after a couple of years had suggested to his chief (Mr. Holden) that these troubles might be eliminated by adopting steel stays for fireboxes. He was, however, given a lecture on the thermal advantages of using copper, but Mr. Holden said nothing about the disadvantages of excessive expansion.

He thought that some of the stays taken out of the "Merchant Navy" locomotives showed evidence of having been in compression. There was the vertical thrust of the side-plate and the horizontal thrust of the top plate, resulting in a thrust outwards. If the author would construct one "Merchant Navy" locomotive with a copper firebox, it would be seen how much there was in the alleged superior steaming with copper.

The engine had a steam brake and the tender the vacuum brake; this meant using the vacuum ejector when running light, and so using steam unnecessarily. The objection to steam brakes was their delayed action. He had found, however, in some experiments he had carried out, that by drilling a ½ in. hole through the piston in the steam brake cylinder, so that steam continually leaked past and kept the cylinders warm, the delayed action was completely remedied.

Major-General A. E. Davidson thought that private locomotive builders would be glad to fit steel fireboxes; but their customers would not have them, and the choice lay ultimately with the customers. The cylindrical neck for the thermic syphons seemed a good idea. The absence of balancing of the reciprocating parts was interesting. In the normal type of wheel where many hundreds of pounds were added in balance weights, there had been trouble recently because some of the steel foundries had not been able to leave enough room on the wheel to put in the necessary weights. He asked how welded-in tubes were "unwelded" when it was necessary to remove them.

Mr. O. V. S. Bulleid in a brief reply, which he said he would amplify later in writing, said that rocking grates were not provided because the first of these engines was built in 1941 when they had to do many things they did not like. He wanted rocking grates, and he did put in a hopper ashpan, and he had hoped to persuade his management to allow him to build wet ash pits, but the war decided otherwise. The loading gauge was a nuisance, but he did not see why it was always said that nothing could be done about it. We could have new trunk roads and bypass roads, but no one seemed to realise that a new trunk railway from Glasgow to London was sadly overdue. Wing-Commander Cave-Browne-Cave's hint about the oil bath was interesting; they had about 40 gal. in the sump and might have overdone it. The temperature was not excessive, however; the oil never rose above 58-60 deg. F. In reply to Mr. MacDermid, one would like to know a great deal more about stays, which were subject to very complex loadings. Ultimately, he was satisfied the screwed stay would be suppressed. The trouble with welding was that it was new, while many engineers were old and rivet-minded. He was always saying to himself, "Please remember that riveting and drilled holes are things of the past, and you must forget them; welding and flame-cutting are the new ways of making boilers." But it was hard to remember that. The question of how to cut out tubes ought not to arise. Mr. Turner was exactly right; the locomotive had suffered for nearly 100 years from burning raw coal and using raw water. The sooner someone provided coal in the form of a liquid and showed how water could be obtained free from all sorts of things that would be far more useful to the chemist, the happier they would be.

* Mr. O. V. Bulleid's paper was reproduced in our issues of December 21 and 28, 1945, and January 4 and 11.

Questions in Parliament

L.M.S.R. Passenger Statistics

Mr. T. Steele (Lanark—Lab.) on December 19 asked the Minister of War Transport (1) if he would state the number of passengers booked a day at Coalburn, Lesmahagow, Blackwood, Stonehouse and Larkhall Stations, on the L.M.S.R. during the week ended September 1, 1945, and the corresponding week in 1939; and (2) if he would state the number of season-ticket holders (including weekly season-ticket holders) travelling from Coalburn, Lesmahagow, Blackwood, Stonehouse and Larkhall Stations, on the L.M.S.R. during the week ended September 1, 1945, and the corresponding week in 1939.

Mr. Alfred Barnes (Minister of War Transport), in a written answer, stated: "The following tables give the information for which Mr. Steele asks, so far as it is available. The records for 1939 as concerns Blackwood and Stonehouse have been destroyed.

NUMBER OF PASSENGERS BOOKED EACH DAY DURING WEEK ENDED SEPTEMBER 1, 1945, AND CORRESPONDING WEEK IN 1939

	Coalburn		Lesmahagow		Blackwood		Stonehouse		Larkhall	
	1945	1939	1945	1939	1945	1939	1945	1939	1945	1939
Monday ...	4	5	18	27	2		80		87	42
Tuesday ...	4	2	14	22	1	Not available	43	Not available	49	15
Wednesday ...	2	3	14	18	8		63		78	81
Thursday ...	3	9	10	15	2		44		129	10
Friday ...	2		14	16			45		23	23
Saturday ...	61	68	30	64	32		120		334	549

NUMBER OF SEASON-TICKET HOLDERS (INCLUDING WEEKLY SEASON-TICKET HOLDERS) WHO TRAVELLED FROM THE STATIONS SHOWN DURING WEEK ENDED SEPTEMBER 1, 1945, AND CORRESPONDING WEEK IN 1939

	1945	1939
Coalburn ...	21	6
Lesmahagow ...	40	35
Blackwood ...	1	not available
Stonehouse ...	30	not available
Larkhall ...	132	101

Indian Railway Service

Major Quintin Hogg (Oxford—C.) on December 3 asked the Under-Secretary of State for India why his instructions to the Government of India in August, 1945, to forward a memorial, of which he was aware, which had been addressed to him by Crown servants in India, had not been complied with.

Major A. Henderson (Under-Secretary of State for India) in a written answer stated: No instructions have been sent to the Government of India in regard to the memorial referred to, which was addressed to the Secretary of State for India by an individual Crown servant. Steps are, however, being taken to inquire of the Government of India when it is expected that the memorial will be forwarded with its comments. I would remind Major Hogg, however, that the question raised in the memorial is one affecting the whole railway service, and the Government of India is no doubt examining the question in that light.

Transport of Beer

Major D. L. Renton (Huntingdon—Lib. Nat.) on December 17 asked the Minister of War Transport why the use of certain railway wagons known as all-open wagons had been forbidden for the carriage of beer from certain breweries in the Midlands to distributors in Peterborough and district; and whether, in view of the approach of Christmas, he would remove this veto so as to ensure proper distribution of beer in the area served by Peterborough.

Mr. Alfred Barnes in a written answer stated: To ensure so far as possible that there is no loss of coal production through a shortage of wagons at the collieries or open-cast sites, the railway companies have

been instructed that, with certain exceptions, mineral wagons are to be used only for coal-class traffic and heavy merchandise in classes 1 to 6. The provision of a limited number of mineral wagons is, however, being allowed to supplement supplies of merchandise wagons for certain breweries in the Midlands where difficulties have arisen.

Leave Trains in Germany

Lieutenant W. Shepherd (Bucklow—C.) on December 17 asked the Secretary of State for War what steps he was taking to provide glass for leave trains in Germany.

Mr. J. J. Lawson (Secretary of State for War), in a written answer, stated that: Continental coaches were badly damaged during the war and very extensive repairs have been carried out, over 30,000 square yards of window glass having already been used. Unfortunately, substantial damage to windows is still occurring, despite strong disciplinary measures, and while this continues I cannot promise that the

window glass in any particular train will be intact.

Travel Facilities in Europe

Lieutenant L. J. Callaghan (Cardiff South—Lab.) on December 20 asked the Secretary of State for War if he was aware that a number of complaints of bad leave-travel arrangements on the Continent were reaching Members; and what steps he was taking to improve present conditions.

Mr. J. J. Lawson, in a written answer, stated: I am aware that there have been complaints. In order to speed up repatriation and leave, every effort has been made to make the maximum use of the limited facilities available, and I realise that travelling conditions have not always been as comfortable as one could wish. But I am sure that the soldiers would prefer a certain amount of discomfort to a postponement of their homecoming, where this is the only alternative. Improvements are constantly being made and will continue as far as practicable.

Parcel Mails to Northern Ireland

Lt.-Colonel Sir Walter Smiles (Down—C.) on December 17 asked the Assistant Postmaster-General if he was aware that many parcels were damaged in transit between Northern Ireland and Great Britain; and if it was now possible to revert to the pre-war practice of shipping the parcels in hampers, which was most satisfactory.

Mr. W. A. Burke (Assistant Postmaster-General) in a written answer stated: I am not aware that the number of parcels damaged in transit between Northern Ireland and Great Britain is disproportionate to the traffic. The use of hampers instead of bags would make serious demands on storage or stowage space at

the various stages of transit and would add considerably to the cost of handling parcel mails. I am satisfied that reversion to the use of hampers, which ceased in 1910, could not be justified.

Green Line Coach Services

Mr. George Wallace (Chislehurst—Lab.) on December 20 asked the Minister of War Transport if he would take steps to re-introduce the Green Line bus service at an early date to obviate travel difficulties in rural areas.

Mr. Alfred Barnes stated in a written answer: Yes, Sir, the L.P.T.B. has arrangements in hand to restart Green Line coach services at an early date.

London Bus Services

Commander A. H. P. Noble (Chelsea—C.) on December 10 asked the Minister of War Transport whether in view of the increasing hardship to the London public caused by the discourteous and unhelpful attitude of many employees, both drivers and others, on the buses of the L.P.T.B., he would take this matter up with the Board in the interests of the travelling public.

Mr. Alfred Barnes: I cannot accept the implication in the first part of the question. I am, however, aware that there is some cause for complaint. The Board assures me that it is its constant care to impress on its employees their duty to be courteous and helpful to the public. The staff has borne the burden of difficult conditions during the years of war. Conditions have not yet returned to normal and I would ask the public as well as the staff to be as helpful as they can.

Commander Noble: Is the Minister aware of the many complaints that are received on the subject by both London Members and the London press?

Mr. Barnes: If Commander Noble will read my reply, he will see that it admits that there is some cause for complaint, and I explained the circumstances which I suggest that the public and staff could remedy.

Viscount Hinchinbrooke (Dorset South—C.): To what extent is the Minister occupying himself with the labour problem? Is he making the life of the Minister of Labour a burden to him, and if not, why not?

There was no reply.

Passenger Road Services

Mr. H. M. Medland (Plymouth, Drake—Lab.) on December 17 asked the Minister of War Transport if his attention had been drawn to the fact that a monopoly in transport had been created between Cawsand, Kingsand, Cremyll, Millbrook and Plymouth; and would he arrange for better travelling facilities for the general public between those villages and Plymouth, their main link with the outside world.

Mr. Alfred Barnes in a written answer stated: My information is at variance with that of Mr. Medland. If he will write to me specifying what improvements he considers necessary in the bus services in the district, I shall be happy to investigate.

Mr. J. J. Robertson (Berwick & Haddington—Lab.) on December 17 asked the Minister of War Transport if he would investigate the cause of the inadequacy of bus travelling facilities in rural districts in south-east Scotland, particularly Berwickshire; and what steps he proposed to take to remedy the present unsatisfactory position.

Mr. Alfred Barnes in a written answer stated: The Regional Transport Commissioner has received no complaints, but he is making special inquiries which would be assisted if Mr. Robertson would let me

have details of the particular places or services he has in mind.

Mr. R. Sargood (Bermondsey West—Lab.) on December 17 asked the Minister of War Transport whether he was aware of the inadequate public passenger transport services in Bermondsey; and whether he would have inquiries made with the object of more satisfactory services being provided.

Mr. Alfred Barnes stated in a written answer: I am informed by the London Passenger Transport Board that the service on bus route No. 47 (Shoreditch-Farnborough) was increased at peak periods from December 12 and that it is proposed to increase the services on route No. 1 (Lewisham-Willesden) and No. 82 (Rotherhithe-Stepney) in February. Recent observations by the Board show that the tram services in Bermondsey are adequate. Special attention is, however, being given to them, and adjustments will be made from time to time to meet any variation in the traffic demand.

Mr. E. G. Gooch (Norfolk, Northern—Lab.) on December 17 asked the Minister of War Transport if he would look into the new Order issued for buses operating on the county services in Norfolk, under which 30 people would be allowed to stand in one type of vehicle; and if he would take steps to increase the number of public-service vehicles in the county area.

Mr. Alfred Barnes in a written answer stated: The permission to carry up to 30 standing passengers on specially-adapted single-deck vehicles has been in operation during the greater part of the war. With the improvement in services now taking place the Regional Transport Commissioner has recently reviewed the position and on town services has reduced the number allowed on these vehicles to 20. He will consider the matter again not later than March next. Bus services in rural areas will continue to be improved, where necessary, as additional staff is recruited.

Mr. A. E. Baldwin (Leominster—C.) on December 17 asked the Minister of War Transport if he would make arrangements for a school bus service from the Leintwardine and Wigmore districts to convey pupils to and from Lucton and Leominster secondary schools, a distance of approximately ten miles.

Mr. Alfred Barnes in a written answer stated: My Regional Transport Commissioner hopes to be able to arrange a service by the beginning of next term.

Empty Running of Transport Vehicles

Lieutenant William Shepherd (Bucklow—C.) on December 17 asked the Minister of War Transport if he would state the steps he was taking to eliminate the empty running time, approximately 20 per cent., of road transport vehicles operating under his control.

Mr. Alfred Barnes stated in a written answer: The operational methods of the Road Haulage Organisation are designed to reduce empty running to a minimum, but it is not practicable to eliminate it entirely, if only for the reason that traffic is not equally balanced in each direction. Twenty per cent. of empty running compares favourably with the average in haulage generally.

Humber Estuary Transport

Mr. T. Williamson (Brigg—Lab.) on December 17 asked the Minister of War Transport if he was prepared to support the proposal for transport communication across the Humber estuary by bridge or tunnel; if he was aware of the report on the subject prepared by Freeman, Fox & Partners, consulting engineers; and if he would consider making a main road from London via the East Coast to link up with

the proposed bridge or tunnel, and so improve the transport facilities of that part of the country.

Mr. Alfred Barnes in a written answer stated: I have recently received a copy of the report to which Mr. Williamson refers and it is under examination. While I shall, of course, be glad to consider any proposals which the responsible authorities may submit to me, I am not at present prepared to enter into any commitment on this subject.

Civil Aviation Fares

Lt.-Colonel James Hutchison (Glasgow Central—C.) on December 19 asked the Parliamentary Secretary to the Ministry of Civil Aviation what was the schedule of fares from Britain to New York and from London to Glasgow by B.O.A.C.

Mr. Ivor Thomas (Parliamentary Secretary to the Ministry of Civil Aviation): On the London to Glasgow service the fares charged are: single, £9; return, £14 10s. This service is operated by Railway Air Services Limited, not by British Overseas Airways Corporation.

On the British Overseas Airways Corporation flying-boat service across the Atlantic the terminal point in the United

States is Baltimore. The schedule of the fares charged is as follows:—

North Atlantic summer route (direct)		
Poole to Foynes	...	£11 10s.
Poole to Botwood	...	£120
Poole to Baltimore	...	£142

Winter route (via Bermuda)

westbound		
Poole to Lisbon	...	£35
Poole to Bathurst	...	£65
Poole to Trinidad	...	£173
Poole to Bermuda	...	£190
Poole to Baltimore	...	£198
eastbound		
Baltimore to Bermuda	...	\$80
Baltimore to Foynes	...	\$525
Baltimore to Poole	...	\$647

Return fares, where available, show a reduction of 10 per cent.

Colonel Hutchison: Is the Minister aware that a Scottish service, Scottish Aviation, is prepared to carry out this operation at something like half the price which he has just quoted?

Mr. Thomas: I have seen many schedules of the proposed fares, but I have yet to be satisfied that they could be carried out in practice. These fares are based on present conditions and will become much cheaper in peace.

D-Day at Southampton Docks

On December 13, Mr. H. A. Short, Deputy Traffic Manager, Southern Railway, gave an address on this subject before the Southern Railway Lecture & Debating Society, in which he said that the story of Southampton during the war years, 1939 to 1945, was a record of service to the British Empire, and, in an even wider sense, to the United Nations. On the declaration of war in September, 1939, the picture at Southampton was changed and the needs of the Services had to be met. A Port Emergency Committee was set up by the Minister of Transport to co-ordinate the berthing and loading of vessels, and the many and varied jobs and interests connected with shipping. The Chairman of this committee was the Docks & Marine Manager, and although it has not always been fully appreciated, the Southern Railway continued to manage and operate the docks undertaking throughout the war, co-operating to the full extent with the Services. Southampton at once became a principal embarkation and supply port for the British Expeditionary Force. This role was not novel as the port had despatched military expeditions from these shores for centuries. The first nine months of the war was one of sustained activity at the docks for both military and commercial traffic, but in June, 1940, with the fall of France the picture was entirely altered.

All through the war Southampton's up-to-date ship repairing facilities, including the Southern Railway marine engineering workshops, made a big contribution to victory. Commercial vessels were fitted out as hospital carriers, troop carriers, armed merchant cruisers and fleet auxiliaries. The workshops dealt with nearly 800 vessels up to VE-Day, in addition to repairs to smaller craft, such as maintenance of water ambulances of which 555 operations are recorded. Enemy air attacks were frequent, both day and night; the first serious damage within the docks was sustained during a daylight air attack on August 13, 1940.

Slipways—known as hards—were constructed at Southampton but the most interesting phase in the winter of 1943-44 was Mulberry. Two of the dry docks were turned over exclusively for the work to contractors appointed by the Ministry

of Supply; one of these dry docks was the King George V Graving Dock. Several deep-water quays and areas of land in the docks were also used, and thousands of additional skilled and semi-skilled men arrived in Southampton, for employment on Mulberry. This gigantic enterprise had to be completed in an incredibly short space of time judged by all normal standards and, furthermore, all the operations had to be kept secret. After the lower parts of the concrete caissons were constructed the dry docks were flooded and the partly constructed units floated out to be completed at adjacent wet berths. These concrete blocks formed the main breakwaters. The assembly of another part of Mulberry also proceeded apace in No. 7 Dry Dock, where large steel structures which were to form a breakwater outside the concrete blocks were assembled. Within the breakwaters the chief feature of the Mulberry port layout was the Spud pierhead at which vessels could be discharged.

Just before D-Day the plans for the "build-up" were checked and re-checked with the Services, last minute adjustments being made to meet the requirements of the Military. The Ministry of War Transport, in conjunction with the Admiralty, War Office, and U.S. Army, had set up a Special Port Executive Committee, of which the S.R. Docks & Marine Manager was Chairman, at Southampton to co-ordinate all the arrangements and to cope with any emergency which might arise. On the invasion—all Southampton's records went by the board—the Military traffic handled in the first seventeen weeks after D-Day exceeded in tonnage figures the commercial trade dealt with during the whole 52 weeks of the last pre-war year.

In about six months after D-Day a million men of the U.S. Army had passed through the port, and to this figure must be added the huge contingents of British Army personnel embarked.

In 1944 the gross registered tonnage of shipping entering Southampton Docks totalled nearly 23,000,000 tons—excluding small craft. Nearly 2,000,000 tons of freight were dealt with over the quays and 1,750,000 personnel passed through the port.

Between D-Day and VJ-Day—about 14 months—30½ million gross tons of shipping entered the docks, excluding small craft, 2½ million tons of freight were

dealt with over the quays, and 3½ million service personnel passed through the port. About 21,000 railway wagons and other railway vehicles and 770 locomotives were shipped in the same period.

The Southern Railway Traffic Department's great war job for D-Day in planning and keeping not only Southampton—but all the other Southern ports—supplied with loaded wagons for shipment was a complete story of its own. Between D-Day and VJ-Day nearly eight hundred thousand wagons were conveyed—in addition to the large number of troop specials.

The giant Cunarders *Queen Mary* and *Queen Elizabeth*, both of which had been on active service during the whole war, returned to Southampton Docks which was all ready to berth them at its deep-water quays. They embarked 15,000 American troops for return to America on each voyage. The S.R. ran about 30 special trains to the quayside for each sailing.

Changes in Irish Railway Workers' Conditions

(From our Dublin correspondent)

Certain changes in the existing agreements between the railway companies and the unions—the Associated Society of Locomotive Engineers & Firemen, the National Union of Railwaymen, and the Railway Clerks Association—have been recommended by the Irish Railway Wages Board after a private session lasting 11 hours. Mr. R. McGonigal, S.C., presided. The main recommendations are:—

That the "new-entrants" rate shall cease to apply to employees whose home stations are in Northern Ireland.

A minimum period of 12 hours rest shall be provided between each two turns of duty at the home station. A minimum of nine hours' rest, with a maximum of 12 hours shall be provided when a man is booked off duty away from his home station. The nine hours' rest interval shall not necessarily be adhered to when men are booked off duty away from the home station after working race trains, excursion trains, or other special trains; in such cases, an interval of seven hours' rest only need be given provided the outward journey has not exceeded seven hours' duty. In such cases the men shall be released from work on the completion of the return journey or on arrival at shed with engine.

The lodging allowance for drivers and firemen, passenger guards, and goods guards, and travelling ticket collectors, when notified of double home turn before leaving their places of residence is to be 2d. an hour, with a minimum of 5s., and, when not so notified, 2½d. an hour with a minimum of 5s. 6d. These allowances apply when the period away from home does not exceed one week.

When temporarily transferred from the home to another station, the lodging allowance shall be 5s. a day and night, with deduction of 1s. 6d. a day or night where the company provides accommodation.

In the case of a man ordered to work a double home turn, and who packs food accordingly, but is advised, after leaving his home, that he will not be required to take rest away from home, 1s. 6d. shall be allowed. Cleaners are allowed 1s. 3d. a day to cover expenses if away from home station during booked mealtime; 3s. 3d. a night; 4s. 6d. a day and night.

Permanent-way staff, when away from

home, will receive 1s. 3d. a day to cover expenses, and 3s. 3d. a night and 4s. 6d. a day and night if required to work on another length at more than two miles from the centre of their own lengths.

Signal linesmen, telegraph linesmen and permanent-way men in flying squads, if lodging away from home, although working within their regular distance, shall receive 3s. 3d. a night and 4s. 6d. a day and night.

For all other grades in the conciliation scheme, the allowance shall be 1s. 3d. a day to cover expenses if away from home during booked mealtime, 3s. 3d. a night; 4s. 6d. a day and night. Where the period away from home exceeds one week, the allowances at present in operation shall apply.

The Board recommended that lodging away from home be eliminated as far as is reasonably practicable in the case of trainmen. It also recommended that the grade of porter-guard, as defined in the green book, be eliminated and that such posts be filled by men graded as guards.

It further recommended for emergency duty that all grades be entitled to a minimum of four hours' pay for each time of signing on duty, with the addition of all time actually worked from the time of call to be paid at the appropriate overtime rate, and that such turns be treated as apart from the guaranteed week; that the existing allowance for fogging and snowstorm duties be increased to 4d. an hour with a minimum of 1s. 6d.; that in all cases in which a clerk, other than a relief clerk, a supervisor, or a stationmaster is called on to perform the duties of a person in a higher class, he be paid at the minimum rate for such higher class. This arrangement shall not be compulsory for higher duties temporarily performed because of the absence of an employee through illness on full pay.

All starlied staffs who work on Whit-Monday and the August Bank Holiday in Eire, or on July 12 and 13 in Northern Ireland, shall receive a day off with pay at the ordinary rate.

In view of the changes in the duties and responsibilities of stationmasters, goods agents, and railway supervisors, due to the variations in road and rail traffic, a review of the classification of stations and positions is desirable, and for this purpose a meeting of the parties to the national agreement was suggested.

Another recommendation is for a scheme to come into operation on April 1, for the payment of part wages during illness by the companies which have not already in operation a sickness-benefit scheme. An employee shall, after twelve months, be entitled to be paid, during sickness, half his composite rate of pay for a period not exceeding 26 weeks in any one period of 12 months. Where the illness is due to an accident in respect of which compensation is payable, the company will add to the compensation such amount as will yield half the employee's composite rate of pay.

The details of the scheme, and the application and interpretation of the principles on which it is based, shall be settled by a sub-committee of the Board to be nominated by the unions and the companies.

As to promotions, the Board recommended that all vacancies in the clerical, supervisory, and stationmaster classes giving opportunities for promotion up to and including Class 2 in each case shall be advertised to the staff in the official circular, with a statement of the

date on which the applications are to be dealt with.

It was the Board's view that the foregoing findings, save that relating to payment during sickness, should take effect as from the beginning of the first complete pay-period in the present month. The Board, by a majority, did not consider the present time opportune to make any recommendations in relation to the remainder of the claims before it.

L.N.E.R. Train Service Alterations

From January 7 there has been a further considerable restoration of restaurant and refreshment car services over the L.N.E.R. main lines. The complete list of trains now so equipped is as follows:—

Down	Up
10.00 a.m. Kings Cross—Edinburgh	10.00 a.m.
9.15 a.m. Kings Cross—Newcastle	9.30 a.m.
*12.30 p.m.	*12.25 p.m.
Kings Cross—Leeds	
7.45 a.m.	7.50 a.m.
6.05 p.m.	5.30 p.m.
Leeds—Edinburgh	5.20 p.m.
8.35 a.m. Marylebone—Manchester	
*9.50 a.m.	*3.50 p.m.
Marylebone—Sheffield	
6.15 p.m.	7.30 a.m.
Liverpool Street—Norwich	
6.40 p.m.	11.50 a.m.
Liverpool Street—Parkerston Quay	
†8.00 p.m.	†7.15 a.m.
Edinburgh—Aberdeen	
7.35 a.m.	5.45 a.m.
9.55 a.m.	12.40 p.m.
2.10 p.m.	3.45 p.m.
6.30 p.m.	6.30 p.m.
Glasgow—Fort William	
5.50 a.m.	2.56 p.m.

* Buffet cars. † Mondays, Wednesdays & Fridays only. ‡ Wednesdays & Fridays only; also 7.35 a.m. Sundays.

The Sunday restaurant car services provided continue to be, as previously, at 11 a.m. from Kings Cross to Edinburgh, 11.15 a.m. from Edinburgh to Kings Cross, 7.35 a.m. from Edinburgh to Aberdeen, and 6 p.m. from Aberdeen to Edinburgh, together with buffet cars on the 10.40 a.m. from Kings Cross to Newcastle and the 1.55 p.m. from Newcastle to Kings Cross.

Important train alterations effective from January 7 include a new buffet car express at 12.30 p.m. from Kings Cross to Newcastle, relieving the 12.45 p.m. to Edinburgh; this calls only at Peterborough and York and reaches Newcastle at 5.50 p.m. The 6 p.m. from Aberdeen to Edinburgh is a through train to Kings Cross (in addition to the 6.30 p.m. "Aberdonian" and corresponding to the 7.5 and 7.30 p.m. through workings from Kings Cross to Aberdeen). On Sunday evenings there is an additional express at 10.55 p.m. from Marylebone to Leicester, calling at Aylesbury, Quainton Road, Finsmere, Brackley, Woodford, and Rugby, and reaching Leicester at 2.5 a.m. The 5.30 p.m. from Liverpool Street to Clacton-on-Sea, previously non-stop to Thorpe-le-Soken, now calls at Colchester and has a slow connection from there to all stations on the Clacton branch. The 6 p.m. from Liverpool Street to Ipswich starts at 5.42 p.m. On Wednesdays there is an additional non-stop express at 3.55 p.m. from Liverpool Street to Parkerston Quay (the "Scandinavian") in connection with the boat service to Esbjerg. The 4.40 p.m. from Liverpool Street has a fast portion from Cambridge to Newmarket and Bury St. Edmunds, reaching Bury at 7.7 p.m., 28 min. earlier; in the reverse direction there is an acceleration of 30 min. by a new express from Bury at 8 a.m., and Newmarket at 8.27 a.m., attached at Cambridge to the 7.30 a.m. slow from Bury, and due Liverpool Street at 10.25 a.m.

Institution of Railway Signal Engineers

"Question and answer" meeting

The Institution of Railway Signal Engineers held a second "question and answer" meeting in London on January 4. The President, Major R. F. Morrell, occupied the chair during the formal business proceedings, vacating it in favour of Mr. L. J. Boucher, member of Council, during the discussion on the questions.

The first asked what were the deciding factors, assuming it to be possible to scrap existing equipment and disregard costs, in choosing the type of power interlocking for a main line station.

Mr. E. W. Challis, in a considered reply, set out the principal technical points involved, from the signal-engineering and traffic-operating aspects, and put the comparisons in the form of additional questions on the relative complexity of power frame and relay interlocking circuits, the readiness or otherwise with which faults could be located and alterations effected, and the factors involved in the control of outside functions. He also made a comparison between electric and electro-pneumatic working under either the power frame or panel form of installation.

Mr. T. Austin thought ruling out the question of cost prevented the problem from being approached correctly. The real practical basis for any such judgment was that one should get the best value for money in working results. In signalling at an existing station, the permanent way would have to be used with the minimum of modification. He thought too much was made of speed of operation. With efficient point machines and competent men at a power frame there could be little in the argument that a panel could be worked more quickly.

Mr. B. Wagenrieder said he had a case in mind where a panel could have done the work of a frame of 160 to 200 levers. Was the relay system more costly or was the expense about the same, no matter which method was selected? If the costs were heavier then they had to set against them a possible saving in staff. He thought a relay installation probably afforded quicker operation.

Mr. A. A. Pecksen's experience had been confined to power frames. The traffic department wanted expedition combined with safety.

Mr. A. Moss said the relay system allowed a reduction in operating staff, but it was wrong to say they had to have more maintenance men.

Mr. H. H. Dyer, Vice-President, thought that the space occupied by a power frame in any case could be considerably reduced by using selection, which enabled the saving of a number of levers. They had had a case quite recently where a large frame would have meant much walking about, but selection made a great difference to the scheme. They were apt to think of signal-box work in terms of physical effort and overlook the mental effort involved. Some panels were so complicated that one man could not work them and think about all the train movements he had to handle. As regards faults, he would far sooner prefer to deal with a power frame, were he a linesman.

Mr. T. S. Lascelles asked why they did not halve the length of their power frames by adopting the Italian rule and arranging all frames over a certain size with the handles in two rows?

Mr. L. J. Boucher, summing up the views expressed, said he was in favour of the power frame and could see no sufficient reason for departing from it. His railway had adhered to the one standard method, with the same type of circuit at every location, and could not see that anything was to be gained by doing something different. He had not met with any instance where a saving in operating staff, or anything else, could be obtained that justified a departure from the proved and efficient practice they had so far followed.

BRITISH STANDARD SYMBOLS

The second question related to the use of the British Standard symbols for signalling schemes and inquired for what reason some did not always use them. The President dwelt on what had been done by the British Standard Institution and the question of revising the symbols, urging that any difficulties arising in the use of them should be referred through the proper channels to that Institution, and Mr. L. J. Boucher stressed the importance not only of the symbols but the standard terms.

Mr. C. F. D. Venning said the standard symbols were being used to an increasing extent, which helped the industry.

Mr. A. Brown thought the B.S.I. symbols for signalling work very good for actual signalling circuits, but for certain work, such as describer circuits, he had found the Post Office standards very effective.

Mr. R. O. Yardley considered the B.S.I. items sufficient in most cases, but thought

an alteration in a shunt-signal symbol might be made with advantage.

Mr. G. E. Gillies raised the question of the forms used in making locking tables, and Mr. L. J. Boucher pointed out that the Institution of Railway Signal Engineers had itself laid down a recommended practice. That ought to be followed.

Mr. A. A. Pecksen considered the B.S.I. symbols greatly to have assisted the traffic staff in understanding plans put before them.

Mr. F. L. Castle, Vice-President, regretted the failure to use the symbols sufficiently and thought that was referable to the conservatism of railway engineers, so often in evidence.

Mr. P. Lomas pointed out that there were two distinct systems of symbols, the written circuits and the wiring symbols. The former were never intended to show location wiring.

LIGHT SIGNALS AT LEVEL CROSSINGS

The final question inquired whether light signals would be effective at level crossings in Great Britain. The meaning of this was interpreted differently by hearers. Mr. R. S. Griffiths, Past President, in a considered reply, thought the questioner was proposing to replace gates by road traffic signals, and dwelt first on the existing legislation on the subject. The present type of protection was expensive but it was most effective.

Mr. F. Horler, while agreeing that light signals were in use in several countries, also pointed out that the gate system was well established in Great Britain and gave greater protection than any mere visual indication could do. Signals might usefully supplement gates in some cases, or be used at occupation or light railway crossings.

Presentation of Plaque to Southern Railway



A group taken after the unveiling of a plaque, presented to the Southern Railway by the 14th Major Port, U.S. Army, at Southampton Docks on January 3

Left to right: Mr. C. Grasemann, Public Relations & Advertising Officer, Southern Railway; Colonel W. H. V. Jones, Embarkation Commandant, Southampton; Captain Kolbe-Bernard, French Consul, Southampton; Mr. Bernard Picknett, Director of Sea Transport, Ministry of War Transport; Mr. S. W. Smart, Superintendent of Operation, Southern Railway; Commander B. Manfield, R.N., Sea Transport Department, Southampton; Brigadier W. C. A. Hanney, Area Sub-Commander, Hants District; Mr. R. P. Biddle, Docks & Marine Manager, Southern Railway; Colonel S. L. Kiser, Port Commander, 14th Major Port U.S. Army; Admiral Sir Thomas Tower, Flag Officer in Charge, Southampton; Captain A. Johnstone, R.N., Chief of Naval Staff, Southampton; Mr. H. A. Short, Deputy Traffic Manager, Southern Railway; Mr. T. Lewis, M.P., Chairman, Southampton Harbour Board; Mr. E. Burrow, Assistant to Docks & Marine Manager, Southern Railway; Mr. F. G. Bishop, Divisional Superintendent, Southern Railway, Southampton

Ferryhill (L.N.E.R.) Accident Inquiry

The Ministry of War Transport inquiry into the L.N.E.R. express accident near Ferryhill (Durham) on January 5 was opened at Newcastle on January 11 by Colonel E. H. C. Trench, Inspecting Officer of Railways. The duplicate portion of the 11.15 p.m. Kings Cross to Newcastle express came into collision with a derailed goods train. Ten passengers, most of whom appeared to be in the first passenger carriage of the express, were killed, and 17 were detained in hospital with injuries.

Mr. J. Slinger, driver of the goods train, said that he was stopped by a red hand-lamp signal at Browney signal box. The signalman told him that his train was divided. When he looked back he saw the sidelights of a van coming down on him. He jumped across the footplate of his engine and tried to open the regulator to get away from the wagons. They caught up, there was a collision, and they were derailed. He was thrown to the ground. When he got up he saw the lights of the express approaching. There was nothing he could do. The express struck his engine a glancing blow on the corner of the footplate and went past. He heard a series of smashing blows and the express came to a standstill with the back portion still on the rails. He could not account for a coupling of his goods train breaking.

Mr. W. Clarke, the fireman, said he could not suggest any reason why the coupling should have broken when they started at Bridge House. When the wagons had stopped piling up, the signalman told him he had an express in the section. He (Clarke) ran down his train with a torch and along the line, waving the torch, hoping the driver of the express would see it, but the express passed him. It was doing 50 m.p.h. when it crashed.

Mr. George Henry Furlanger, driver of the express, said he was going about 50 m.p.h. The down distance signal of Browney was "off" and the Browney home signal was also "off." He saw no signs of any obstruction on the line. The first he knew that anything was wrong was when his engine started to screech. He thought it was falling to pieces. The engine

ploughed through the goods wagons, and turned on its side.

Mr. W. R. Cooper, a signal linesman and fitter, said that the Browney signal box levers were all at normal, but in spite of this, the down home and distant signals were off. This was because the wires had been fouled by the derailment. Nearly all signals controlled by the box were out of accord with the levers.

Mr. W. Johnson, signalman at Browney box, said that as he thought the divided portion of the goods train would come to a standstill, he did not signal "obstruction danger" to the express. Thinking that the first half of the goods train was in no serious danger, he stopped it. His signals against the approach of the express were at danger and he thought that would stop the express. He sent "obstruction danger" signals in both directions, but the express had passed the next signal box. When the express came up he realised that it was travelling at normal speed and had passed the danger signals.

Late Running on the L.N.E.R.

The statement below is reprinted from the January 13 issue of *The Sunday Express*, which had asked the railway companies for the actual running schedules of their chief trains during one complete week, excluding Sunday. The table is referred to in an editorial note on page 54. A condensed version of the official reasons for the delays is given under the timings.

	Minutes late on January										
	4	5	7	8	9	10	11				
Kings Cross 10 a.m. to Edinburgh	...	15	53	77	99	57	61	42			

[The long delays on January 5, 7, 8 and 9 were partly caused by the Ferryhill accident blocking the tracks. But on January 7 and 8 there was locomotive trouble, and on January 9 a defective dining car caused delay. The hour delay on January 10 was caused by steaming trouble due to bad coal and permanent way repairs. Track repairs, locomotives losing time through coal or defective working, and signal checks for traffic ahead caused hold-ups on January 4 and 11.]

Travelling Snack Bar, Southern Railway



A view of the interior of one of the three refreshment cars operating on the Southern Railway London-Hastings line via Tunbridge Wells. (see our last week's issue)

Minutes late on January

	4	5	7	8	9	10	11
Kings Cross 10.30 a.m. to Leeds	...	22	10	26	26	10	19 12

[Permanent way repairs and signal checks on January 4 and 7. Track repairs and locomotive trouble on January 5, 8, plus a defective brake on January 8. Locomotive lost time through defects or bad coal on January 9, 10 11. Heavy parcel traffic on stations caused delays on January 11.]

Minutes late on January

	4	5	7	8	9	10	11
Kings Cross 1.45 p.m. to Harrogate	...	70	18	11	34	39	17 33

[Track relaying and engine losing time accounted for the big delay on January 4. Signal checks on January 5 and 8. Signal checks and engines losing time on January 9, 10, 11, with additional complication of waiting for the engine to appear from the sheds to start the train on the last date.]

Minutes late on January

	4	5	7	8	9	10	11
Kings Cross 3.30 p.m. to Newcastle	...	81	62	45	46	52	44 48

[Track repairs and a signal failure on January 4. Ferryhill accident from January 5 to 9. Repairs, checks, and locomotive steaming troubles, January 10 and 11.]

Minutes late on January

	4	5	7	8	9	10	11
Newcastle 8.10 a.m. to Kings Cross	...	74	45	97	51	48	83 39

[Ferryhill accident affected running from January 5 to 10. Signal checks on January 4. Cattle on the line on January 10. Track relaying on January 8 and 11.]

Minutes late on January

	4	5	7	8	9	10	11
Harrogate 12.5 p.m. to Kings Cross	...	31	30	82	37	37	33 36

[From January 4 to 8 signal checks, which also occurred on January 10 and 11. Plus track repairs on January 9, 10 and 11, and locomotive losing time on January 9 and 11.]

Minutes late on January

	4	5	7	8	9	10	11
Edinburgh 10 a.m. to Kings Cross	...	201	55	106	97	84	33 53

[There was a locomotive failure on the line, and also a defective vehicle on January 4. Ferryhill, locomotive failure and signal checks account for the rest of the week.]

Minutes late on January

	4	5	7	8	9	10	11
Leeds 5.30 p.m. to Kings Cross	...	60	53	32	49	84	43 48

[Signal checks on every day, plus engine losing time on January 4, 5 and 11. Permanent way repairs on January 10.]

Minutes late on January

	4	5	7	8	9	10	11
Sheffield 7.30 a.m. to Marylebone	...	On 18	31	3	29	13	30

[Permanent way repairs, locomotive steaming trouble, and signal checks account for all these delays.]

Minutes late on January

	4	5	7	8	9	10	11
Marylebone 6.15 p.m. to Sheffield	...	2	On 26	43	3	On 8	time

[Signal checks January 4 and 8. Track repairs January 9 and 11.]

Minutes late on January

	4	5	7	8	9	10	11
Liverpool Street 11.50 a.m. to Norwich	...	On 12	2	2	3	1	5

[Signal checks and track repairs account for these slight delays.]

Minutes late on January

	4	5	7	8	9	10	11
Liverpool Street 6.40 p.m. to Norwich	...	16	6	71	18	On 22	38

[Signal checks account for the delays on January 4, 7, 8 and 11. On January 10 the coaches were late in from the assembly sheds.]

Notes and News

Charles Roberts & Co., Ltd.—Charles Roberts & Co. Ltd. announces the payment of an interim ordinary dividend of $7\frac{1}{2}$ per cent. (against 5 per cent.) on account of the year ending March 31 next.

The "Simplon Express."—The "Simplon Express" commenced running again on January 8, when it left Paris for Milan. A regular passenger service is to be maintained, leaving Paris on Tuesdays, Thursdays and Sundays.

Entre Rios Railways Co. Ltd.—The directors of the Entre Rios Railway Co. Ltd. announce the payment of $2\frac{1}{2}$ per cent., plus interest thereon on the 5 per cent. debenture stock, in respect of the half year ended November 30, 1934. The preceding payment was on October 1 in respect of the half year ended May 31, 1934.

Stream-Line Filters Limited.—The net profit of Stream-Line Filters Limited for the year ended December 31, 1944, amounted to £29,949 against £22,591 for 1943. The total dividend on the ordinary shares for the year is 13 per cent. against 10 per cent. for 1943. The balance carried forward to the 1945 accounts is £16,916 against £8,017 brought in.

German Railcars for Chile.—Before the war the Chilean State Railways Administration ordered from Germany 21 diesel railcars. These were completed by the end of 1938, but were not shipped to Chile, and, at the outbreak of the war in 1939 they were taken to Switzerland, as we recorded at the time. It is now reported that the Chilean authorities hope to secure shipping space in the near future.

Relaxation of Export Control.—By the Export of Goods (Control) (No. 8) Order, 1945 (S.R. & O., 1945, No. 1602), the Board of Trade has abolished some of the export licensing requirements. The principal effect is that certain goods, including the following, do not need export licences for any destination: plates and sheets of iron and steel; hand tools; corundum and emery; mobile cranes; vulcanised fibre and manufactures; vans and trucks.

Anti-Attrition Metal Co. Ltd.—Mr. S. P. Loosen, Chairman & Managing Director of the Anti-Attrition Metal Co. Ltd., at the annual meeting held in London on December 31 said that as a consequence of enemy action the company had had to transfer its factory to Maidenhead from Stratford. Work on the building started in January, 1941. In the last year of the war the output of finished parts for the services totalled 2,250,000. It had a full order book from railways and other manufacturers.

Interoceanic Railway of Mexico (Acapulco to Vera Cruz) Limited.—At an extraordinary general meeting of the Inter-oceanic Railway of Mexico (Acapulco to Vera Cruz) Limited, held on December 20, 1945, the following resolution was passed as a special resolution under the Companies Act, 1929: "That the company be wound up voluntarily, and that Mr. Charles Maitland Duncan, Chartered Accountant, of 112-114, Cannon Street, in the city of London, and Mr. Albert Hawley-Young, Chartered Secretary, of 163, Winchester House, Old Broad Street, in the said city, be and they are hereby appointed jointly and each of them severally Liquidators for the purposes of such winding-up, and that the remuneration payable to the Liquidators be the sum

of £1,950 to be divided between them as they shall agree, or, failing agreement, equally."

Moss Gear Co. Ltd.—The net profit of the Moss Gear Co. Ltd. for the year ended August 31, 1945, amounted to £80,402 against £78,740 for the previous year. The dividends declared on the ordinary shares for the year total 25 per cent. against 22½ per cent., and £76,228 is carried forward compared with £65,776 brought in.

The Buenos Aires & Pacific Railway Company.—The Buenos Ayres & Pacific Railway Company announces the payment of one year's arrears of interest to January 1, 1943, less tax, to be paid on March 1, on the 4½ per cent. consolidated debenture stock; and that sufficient funds are to be paid to the Argentine Great Western Railway Company to enable the latter to distribute on March 1 one year's arrears of interest to April 1, 1943, on its 5 per cent. debenture stock.

L.N.E.R. Whitmoor Up Marshalling Yard.—Four modern type wagon retarders, complete with electrically-operated hydraulic pumping equipment, have been installed recently by the L.N.E.R. in the Up Marshalling Yard at Whitmoor. They replace four similar retarders which were installed in 1929 but which were reaching the end of their useful life. It is estimated that approximately 14,000,000 wagons will have passed over the former rail brakes since 1929. The new retarders have a greater capacity than those they have replaced; and the design has been improved so as to simplify maintenance.

G.W.R. Paddington Station First-Aid Posts.—The first-aid posts at Paddington Station, which were introduced on the outbreak of war as part of the Great Western Railway A.R.P. measures, have proved so successful that the company is retaining them experimentally for another six months. Between September 3, 1939, and VJ-Day, 7,300 Services cases and 54,400 civilian cases were treated at the posts, which are manned entirely by qualified members of the company's staff. Cases treated have ranged from the removal of grit from a passenger's eye to severed limbs and childbirth, and among patients have been shipwrecked crews, prisoners-of-war, U-boat crews, enemy airmen, 12,000 refugees and 189,000 evacuees. In addition, 1,777 stretcher cases have been assisted to and from trains by means of a special stretcher invented by a member of the company's staff; and the ambulances attached to the posts have taken to hospitals or to other main-line termini 1,000 members of the Forces and 8,000 civilians.

Institute of Transport.—The Council of the Institute of Transport invites applications from members of the Institute for the award in 1946 of the Silver Jubilee Scholarship of value not exceeding £150 tenable for one year. Applications must be made on a form to be obtained from the Secretary, Institute of Transport, 15, Savoy Street, London, W.C.2, with whom it must be deposited not later than April 30. Each application must be supported by a Member (M.Inst.T.) of the Institute who, by personal contact, has had the opportunity to form an opinion of the suitability of the applicant. The member awarded the Silver Jubilee Scholarship qualifies also for the F. C. Coleman Modern Transport Award, founded in 1944 on the occasion of the Silver Jubilee of the Institute by the Modern Transport Publishing Co. Ltd., in memory of the late Mr. F. C. Coleman's

past efforts for transport education and the prominent part he played in the founding of the Institute of Transport. The amount is £50 a year for award to the Institute Silver Jubilee Scholar, on the understanding that it is his intention to pursue a career in the world of transport, to assist him in the purchase of books and equipment for the pursuit of his studies.

C.P.R. Free Scholarships Offer to Employees.—Two free scholarships to McGill University are being offered again this year to employees under 21, and minor sons and daughters of employees, of the Canadian Pacific Railway. Seventy-two of these scholarships already have been awarded by the company. Subject to competitive examination and eligibility to enter the university, the scholarships cover a period of not more than five years renewable from year to year.

Concession Fares.—The Admiralty, the War Office, the Air Ministry, and the Ministry of War Transport, have announced that the limitation on the number of railway tickets at concession fares which may be obtained by wives of Servicemen is removed as from January 1, 1946. Except in certain specially-authorised cases, however, such as visits to husbands in hospital, concession fares will not be available for wives for single journeys of less than 30 miles or return journeys of less than 60 miles.

Puerto Cabello & Valencia Railway Co. Ltd.—A general meeting of the members of the Puerto Cabello & Valencia Railway Co. Ltd. will be held at Dashwood House, 69, Old Broad Street, London, E.C.2, on January 31 at 11 a.m., for the purpose of having an account laid before them showing how the winding-up of the company has been conducted and its property disposed of, of hearing any explanation which may be given by the Liquidator, and of passing an extraordinary resolution as to the disposal of the books, accounts and documents of the company.

Timber Fireproofing Co. Ltd.—At the ordinary general meeting of the Timber Fireproofing Co., Ltd. on December 19, Mr. W. J. Garner, Chairman & Managing Director, stated that the net profit for the year amounted to £9,175. Further laboratory tests had recently been made to establish whether their process was proof against dry rot, which were entirely successful, and when this became sufficiently known it should attract a considerable amount of business from the commercial field. Considerable progress had been made during the past two years in speeding up their process without in any way impairing its efficiency. Whereas a short time ago it took some months before a customer received back his processed timber, this period had now been reduced to weeks, and, in the case of plywood, days.

British Welding Research Association.—Application has been made to the Board of Trade for a licence directing an association about to be formed under the name of British Welding Research Association, to be registered with limited liability without the addition of the word "Limited" to its name. The objects for which the association is proposed to be established are: to promote and facilitate research and other scientific work in connection with welding and its application to trade or industry. A copy of the memorandum of association may be inspected at the offices of Ashurst Morris Crisp & Company, 17, Throgmorton Avenue, London, E.C.2.

Any person, company or corporation objecting to the application may bring such objection before the Board of Trade, on or before January 21 next, by a letter addressed to the Principal Assistant Secretary, Board of Trade, Insurance & Companies Department, Romney House East, Tufton Street, London, S.W.1.

Engineer Required.—Firm supplying railway track appliances requires an ex-officer with engineering qualifications. See Official Notices on page 83.

Butler Machine Tool Co. Ltd.—Trading profit of the Butler Machine Tool Co. Ltd. for the year ended September 30, 1945, amounted to £71,367 against £84,128 for the previous year. A dividend of 12½ per cent. has been declared on the ordinary shares, and £18,987 carried forward compared with £17,674 last year.

Alar Limited.—The collaboration of a group of light metal manufacturers, which originated in the war with the pooling of technical information, has resulted in the formation of a development organisation known as Alar Limited. Its purposes are to ensure that the present standard of secondary aluminium alloys is maintained and to promote their use by bringing about a wider appreciation of their properties.

Central Wagon Co. Ltd.—The report of the Central Wagon Co. Ltd., for the year ended September 30, 1945, states that after making provision for depreciation and taxation, net profit was £75,155, which with £34,032 brought forward from last year's accounts, produced a balance of £109,187 available for distribution. The total dividend for the year was 15 per cent. and a bonus of 2½ per cent., less tax, a total of 17½ per cent. against 15 per cent. for the previous year. The carry forward is £35,437. The report also states that the company acquired 9,500 additional wagons during the year.

Metropolitan-Vickers Electrical Co. Ltd. and Newton & Wright Limited.—An agreement has been concluded by which Metropolitan Electrical Co. Ltd. will acquire a substantial interest in the old-established business of Newton & Wright Limited, manufacturers of X-ray apparatus and optical equipment. Newton & Wright Limited will remain a separate entity, but there will be the closest co-operation between the organisations of the two companies. The present directors of Newton & Wright Limited will remain on the board; Mr. R. N. Wright is relinquishing his position as Managing Director after a connection of 54 years, but retains that of Chairman. Mr. H. A. Quinton, who has been associated with the company for 32 years, becomes General Manager.

Disposal of Machine Tools.—The Ministry of Supply, after discussion with the trade interests concerned, proposes to offer for sale certain Government surpluses of unused standard (a) twist drills (b) reamers (c) end mills and milling cutters (excluding slitting saws) to regular stockists, to whom lists of stock offered will be circulated periodically by the agents appointed by the Minister. The tools will be offered for sale to regular stockists at a special discount. Regular stockists of the types of tools in question who decided to be included in the circulation list should apply immediately for an explanatory memorandum to the Deputy Director of Jigs, Tools & Gauges, Minis-

try of Supply, Machine Tool Control, 1, Charing Cross, S.W.1. All applicants should state in which of the three main categories of tools they are interested.

L.M.S.R. Annual General Meeting.—It is proposed to hold the annual general meeting of the London Midland & Scottish Railway Company at 11.30 a.m. on March 1.

L.M.S.R. Striking of Balance.—Balance of 4 per cent. guaranteed 4 per cent. preference, 4 per cent. preference (1923) and ordinary stocks of the London Midland & Scottish Railway Company will be struck at the close of the business on January 23.

L.N.E.R. Ambulance Awards.—The L.N.E.R. first-aid movement in Scotland continues to receive good support, and in the year ended September 30 the L.N.E.R. long service gold medals for 15 years' efficient ambulance work have been awarded to 28 employees in the Scottish area.

Canadian Pacific Railway.—Gross earnings of the Canadian Pacific Railway for November, 1945, were \$25,764,000, a decrease of \$1,401,000 in comparison with November, 1945. Working expenses were \$22,440,000, an increase of \$1,305,000 for the corresponding period of 1944. Aggregate gross earnings from January 1 to November 30 totalled \$291,090,000, a decrease of \$2,189,000 compared with the same period of 1944. Aggregate net earnings for the same period were \$32,837,000, which show a decrease of \$5,573,000 compared with the previous year.

Alfred Herbert, Ltd.—An interesting exhibition of machine tools has just been concluded at the London showrooms of Alfred Herbert, Limited. Practical demonstrations were given on various hardware testing machines. Particularly interesting was the Edgwick Hardness Tester. This machine gives a projection of the image of the indentation on a ground-glass screen, and will deal with work ranging from hardened steel to soft materials, such as lead in a finished or semi-finished state. Other exhibits included the Angle Dekkor, an optical device for checking angular relationship of plane surfaces, and the well-known Coventry Diehead in various sizes, as well as a large range of Coventry Milling Cutters.

Henry Spurrier Memorial Scholarships and Grants.—The Council of the Institute of Transport invites, without restriction of age, nationality or sex, applications for the award in August, 1946, of (i) two Henry Spurrier Memorial Scholarships not exceeding £250 and £150, respectively, and (ii) at least five Henry Spurrier Memorial Grants not exceeding £20 each. It is desirable that candidates for the scholarships should have passed the graduation or associate membership examination of the Institute of Transport, or some professional or academic examination acceptable to the Council. Applications must be made on a form to be obtained from the Secretary, Institute of Transport, 15, Savoy Street, London, W.C.2, with whom the completed form must be deposited not later than May 31, 1946. Each application must be supported by the candidate's employer or other responsible person having personal knowledge of him, and by a Member (M.Inst.T.) of the Institute who, by personal contact, has had the opportunity to form an opinion of the suitability of his application.

Fishguard & Rosslare Railways & Harbours Company.—The next half-yearly ordinary meeting of the proprietors of the Fishguard & Rosslare Railways & Harbours Company will be held at the principal office of the company, Paddington Station, London, W.2, on January 25, at 12.30 p.m., for the general purposes of business, and to elect an auditor in place of one retiring by rotation. The transfer books will be closed from January 19 until after the meeting.

British and Irish Railway Stocks and Shares

Stocks	Highest 1945	Lowest 1945	Prices	
			Jan. 15, 1946	Rise/ Fall
G.W.R.				
Cons. Ord.	60½	47½	55½	+ ½
5% Con. Pref.	124½	104½	113½	+ 2
5% Red. Pref. (1950) ..	107½	101½	103	—
5% Rt. Charge	137½	120	123½	+ 1
5% Cons. Guar.	135½	117	119½	+ 1½
4% Deb.	118	106	108	+ 1
4% Deb.	119½	108	107½	+ 1
4% Deb.	124½	111½	114	+ 1
5% Deb.	138	124	125	—
2½% Deb.	83	74½	81½	—
L.M.S.R.				
Ord.	33	23½	28	+ ½
4% Pref. (1923)	65	50	56	—
4% Pref.	80½	69½	77	—
5% Red. Pref. (1955) ..	106½	99½	100½	+ ½
4% Guar.	106½	97	101	+ 1
4% Deb.	110½	102	105	+ 1
5% Red. Deb. (1952) ..	110½	103½	105½	—
L.N.E.R.				
5% Pref. Ord.	8½	5½	6½	— ½
Def. Ord.	4½	2½	3½	—
4% First Pref.	62½	49½	55	—
4% Second Pref.	33½	24½	29	+ ½
5% Red. Pref. (1955) ..	103	96	97	—
4% First Guar.	104½	95	99	+ 1
4% Second Guar.	97	89½	92½	+ 1
3% Deb.	91½	82½	88½	+ 1
4% Deb.	109½	101	104½	+ 1
5% Red. Deb. (1947) ..	103½	100	101	—
4½% Sinking Fund Red. Deb.	106½	103	103½	—
SOUTHERN				
Pref. Ord.	79½	63	72	—
Def. Ord.	27	20½	23½	+ ½
5% Pref.	124½	104	112½	+ 1½
5% Red. Pref. (1964) ..	117	107	107½	+ ½
5% Guar. Pref.	135½	117	119½	+ ½
5% Red. Guar. Pref. (1957)	117	106½	107½	—
4% Deb.	117	104½	108	+ 1
5% Deb.	137	124	125½	—
4% Red. Deb. (1962- 67)	112	104½	104½	—
4% Red. Deb. (1970- 80)	113½	104	104½	— 1
FORTH BRIDGE				
4% Deb.	106	103	103	— 1
4% Guar.	106	101	102	— 1
L.P.T.B.				
4½ "A"	125	117	120½	—
5% "A"	135	127	130½	—
3% Guar. (1967-72) ...	100	97½	99	+ ½
5% "B"	125½	115	117½	+ ½
5% "C"	70	58	63	+ 2
MERSEY				
Ord.	37	31½	32	—
3% Perp. Pref.	72½	68½	70	+ 1
4% Perp. Deb.	104½	104	103½	—
3% Perp. Deb.	84	78½	81½	—
IRELAND* BELFAST & C.D.				
Ord.	8½	6	7½	—
G. NORTHERN				
Ord.	34	24½	42½	+ 11½
Pref.	52½	42½	63½	+ 11
Guar.	80	68	87	+ 7½
Deb.	97½	87½	97½	—
IRISH TRANSPORT				
Common	—	—	89½	+ 2½
3% Deb.	—	—	100½	+ 1½

* Latest available quotation

OFFICIAL NOTICES

LEEDS manufacturers require Sales Representative under 36, with good presence, education, and the necessary technical qualifications to satisfy Railway Engineers and others at home and abroad. Copy references and full particulars of education and technical experience to Box No. 31, c/o The Railway Gazette, 33, Tothill Street, Westminster, London, S.W.1.

FIRM supplying railway track appliances requires ex-officer with engineering qualifications, for whom there would be good prospects. One who has had permanent way work preferred. Age not over 40.—Address, Box No. 91, c/o The Railway Gazette, 33, Tothill Street, Westminster, London, S.W.1, stating age, qualifications, experience.

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—The Railway Gazette, 33, Tothill Street, Westminster, London, S.W.1.

Bronze Welding Rods.—Weldcraft Limited, an associate company of Hancock & Co. (Engineers) Ltd., is developing a complete range of equipment for gas welding and cutting, and, in addition to acetylene generators, has available a series of bronze welding rods, sold under the trade name of "Bronzecraft." The "Bronzecraft" series has been developed specially for non-fusion welding at low temperatures.

L.M.S.R. Turbine Locomotive.—A general meeting will be held by the Institution of Locomotive Engineers, at the hall of the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, on Wednesday, January 30, at 6 p.m., when a paper, "Ten Years' Experience with the L.M.S. 4-6-2 Non-Condensing Turbine Locomotive No. 6202," will be read by Mr. R. C. Bond, Member of Council.

Midland Bank Limited.—The directors report a net profit for the year 1945 of £2,056,274, which compares with £2,038,274 for the previous year. With £708,414 brought forward, the total available for appropriation is £2,764,688, compared with £2,721,104. The dividend for the year is again 16 per cent. Reserve fund receives £700,000, and £100,000 is placed to bank premises account. The balance carried forward is £751,998. The reserve fund now stands at £15,158,621, which amount is equal to the paid-up capital.

G.W.R. Plans for Developments in South Wales.—On Tuesday, January 15, the Rt. Hon. the Viscount Portal, P.C., D.S.O., M.V.O., Chairman of the G.W.R., accompanied by Sir James Milne, K.C.V.O., C.S.I., Mr. K. W. C. Grand and a number of the company's principal officers, visited South Wales for the purpose of outlining the company's post-war plans for developments in South Wales and Monmouthshire. He presided at a luncheon in the Guildhall at Swansea which was attended by the Mayors of Swansea, Llanelly, and Port Talbot, local Members of Parliament, directors and local officers of the company, officers of trading organisations, Chambers of Commerce, and a large number of local industrialists. He subsequently presided at a dinner held at the Park Hotel, Cardiff, which was attended by the Lord Lieutenant of Glamorgan, Colonel Sir Gerald Bruce, K.C.B., C.M.G., D.S.O., T.D., the Lord Mayor of Cardiff, the Mayors of Newport and Barry, local Members of Parliament, directors and local officers, and a very representative gathering of local industrialists. Lord Portal outlined the company's plans to provide extensive railway and siding facilities to meet industrial developments in South Wales. He said that the G.W.R. regarded the work as of the highest priority. The proposed provision of a new hot strip tinplate mill at Port Talbot and cold production plants at Swansea and Llanelly would involve a large extension of running lines and sidings. Negotiations were taking place for the development of Swansea High Street Station. A report of the pro-

ceedings will be published in our next issue.

Accident at Waterloo, Southern Railway.—It is reported that about 50 passengers were injured, most of them slightly, when a relief train from Pokesdown, near Bournemouth, to London, ran into the buffer stops at No. 14 platform, Waterloo Station, on January 14. First aid was provided at the station, and 25 passengers were taken to hospital for treatment, but two only were detained. The platform was not damaged, and normal services were resumed within an hour.

Glyn, Mills & Co.—The capital of this old-established private banking house incorporating Child & Co. and Holt & Co. was acquired in the summer of 1939 by the Royal Bank of Scotland. In the 123rd statement of assets and liabilities as at December 31, 1945, the general position is shown as one of strong liquidity. Total assets are given as £74,112,534, as against £68,471,877 at the end of 1943. In the present assets are included: £7,340,736 (£7,027,244) in coin, bank notes, and balance at Bank of England; £3,015,166 (£1,820,471) balances with, and cheques in course of collection on, other banks in the United Kingdom; £16,110,700 (£10,543,700); money at call and at short notice; £1,123,680 (£1,647,224) bills discounted; £6,500,000 (£8,500,000) Treasury deposit receipts; and £21,094,672 (£21,508,150) investments, including £20,600,299 (£21,073,082) in British Government securities. Among liabilities, current, deposit, and other accounts, including provision for contingencies, stand at £67,858,648, compared with £62,557,161. The issued capital remains at £1,060,000 and the reserve fund at £850,000.

G.E.C. Thermionic Testing Equipment and Instruments.—A new range of thermionic testing equipment and instruments has been developed at the Salford Instrument Works of the General Electric Co. Ltd. Included in this range is a magnetic sorting bridge, which enables samples of any ferro-magnetic materials to be tested and compared and differences in their chemical composition, hardness, temper and electrical conductivity to be determined. It can be used for comparing components under mass production conditions by unskilled labour, and by skilled personnel for the critical comparison of samples with known test pieces. The many other instruments include a radio-frequency crack detector, which will indicate the presence of cracks and seams in ferrous or non-ferrous metal parts, and will estimate their depths; a layer thickness meter, developed for measuring the thicknesses of non-magnetic coatings on magnetic bases, for example, paints, sprayed metal, or electrodeposited coatings on steel sheet; and a metal thickness meter, designed to measure the thickness of metal from one side only; this instrument is specially suitable for the measurement of the thicknesses of cable sheaths, pipe lines, boiler shells, and tanks, where it is possible to apply a measuring head on one side of the metal only. Another in-

strument in the range is a vibration analyser.

Contracts and Tenders

Mr. H. W. Heyman, until lately Chief Engineer of the Battery Electric Vehicle Department of the Brush Electrical Engineering Co. Ltd., has joined Northern Coachbuilders Limited, of Newcastle-on-Tyne, manufacturers of the N.C.B. battery electric vehicle.

Forty steam locomotives of the "1200" class, designed for general-utility work in freight and passenger service, have been ordered for the Canadian Pacific Railway, it has been announced by Mr. W. M. Neal, Vice-President of the company. Twenty will be built by the Montreal Locomotive Works Limited and the remainder by the Canadian Locomotive Co. Ltd. All are for delivery in 1946, and will be divided equally between Eastern and Western Lines. Built to specifications developed from two engines which the C.P.R. designed and built at its Angus Shops in Montreal in 1944, and since improved, the new locomotives represent part of the company's programme to replace older motive power. Flame-hardening process, used extensively during the war in heavy tank construction, will be used on certain parts of the new engines, which will have frames of rolled instead of cast steel.

Below is a list of orders placed recently by the Egyptian State Railways:—

Davies & Metcalfe, Limited: Buffer springs, tyres, etc.
British Iron & Steel Federation: Steel plates.
Clayton Tinplate Co. Ltd.: Mild steel plates.
Colvilles Limited: Mild-steel bars and blooms.
W. F. Stanley & Co. Ltd.: Drawing pencils.
Vacuum Oil Co. Ltd.: Oil petroleum jelly.
C. C. Wakefield & Co. Ltd.: Gear oil, tallow for glands packing.
Bayliss, Jones & Bayliss Limited: Telegraph and telephone material.
Bullers Limited: Telegraph and telephone material.
Standard Telephones & Cables Limited: Microphones, switchboard spares.
Ericsson Telephones Limited: Switch board spares.
Holophone Limited: Galleries for holophone shades.
Associated Locomotive Equipment Limited: Caprotti spares.
Newton Bros. (Derby) Ltd.: Wireless material.
Automatic Telephone & Electric Co. Ltd.: Key switch board lever.
Johnson & Phillips Limited: Ammeter and valves.

Forthcoming Meetings

January 19 (Sat.).—The Permanent Way Institution, L.M.S.R. District Engineer's Office, 20, Mount Street, Manchester, 3 p.m. "Some Experiences in Transportation Services in India," by Major P. A. James, T.D., of Manchester.

January 23 (Wed.).—The Permanent Way Institution, Ruskin House (Room 13), Wellesley Road, West Croydon. 7 p.m. "Railway Reconstruction in Italy," by Mr. A. H. Cantrell.

Railway Stock Market

Although business in stock markets showed no marked contraction, the undertone became hesitant, reflecting a tendency to await Government measures not only as to nationalisation, but also the impending Bill for the creation of a National Investment Board. The upward movement in British Funds was maintained, and Chinese bonds and other Far East securities came into favour, with rubber and tin shares, particularly the latter, responding to news from Malaya. South African gold shares fell heavily on profit-taking, but base metal mines reflected the higher price for lead. Colliery shares were inclined to rally in some instances, and steel shares recorded moderate gains, but industrials generally have been less firm on further evidence of the extent to which reconversion is being hampered by shortages of labour and materials. The Federation of British Industries' plea for abolition of E.P.T. had little influence on market sentiment, but attracted considerable attention as did the grounds for the suggestion that the financial results of nationalised industries should be separate from the general Budget.

Despite a tendency to await Parliamentary discussion on the Coal Bill and also the forthcoming Government proposals for a National Investment Board, home rails were firm. Junior stocks came in for rather more attention in view of the approaching dividends, and prior charges attracted buyers because they offer favourable yields, which have added attractions as a result of the gradually diminishing yields on British Funds and other front-rank investments. There is growing discussion in the market whether fractionally higher dividends may

be paid on this occasion; although it is recognised that if this proved the case the increases would have to be regarded in the nature of a "victory bonus" to compensate for the conservative payments during the war under the fixed rental agreement. Moreover, it is realised that higher payments would only be forthcoming if it were considered possible to "cut" allocations to contingencies reserves; and apparently the liability of the railways in respect of war damage has yet to be finally decided. The view persists that home railway stocks at current levels are undervalued on a fair compensation basis; but the whole question of nationalisation continues to be surrounded by so much uncertainty that it is hardly surprising that buyers are following a waiting attitude on the assumption that the position may be clarified in some respects during the next two months. In particular the annual meetings of the railways in March are being awaited with considerable interest in the hope that the attitude of the railways as to compensation for stockholders may be clearly defined.

Compared with a week ago, Great Western strengthened from 55 to 55½, and the 5 per cent. preference at 112½ gained a further point, the guaranteed stock (120) was better again, and the 4 per cent. debentures a point higher at 108. L.M.S.R. rallied from 27½ to 28, the senior preference improved fractionally to 77, as did the guaranteed stock at 101 and the 4 per cent. debentures at 104½; but the 1923 preference (55½) was unchanged on balance.

L.N.E.R. second preference recovered from 28½ to 29 on higher dividend possibilities; but the first preference kept at

54½. L.N.E.R. debentures were better again; the 4 per cents strengthened to 104½ and the 3 per cents to 88½. Southern deferred has rallied from 22½ to 23½, and the preferred from 71½ to 72; the 5 per cent. preference at 112 was a point better, and the guaranteed stock also improved to 120, and the 4 per cent. debentures to 107½. Transport "C" stock at 62 gained two points on hopes that the dividend will be maintained and on the possibility that the position of London Transport in relation to Government plans for transport nationalisation may be known before long.

Argentine railway stocks attracted increased attention and moved higher, particularly the debentures. Sentiment was aided by hopes of improving traffics; and there was also renewed talk that the Argentine Government may make proposals this year for acquisition of control of the British-owned railways. The prevailing belief is that if any development of this kind were forthcoming it would have to be on a basis considerably higher than existing market prices for the stocks, bearing in mind that the latter reflect the difficulties of operating on a profitable basis because of exchange factors and the Argentine regulations as to railway working. Later, political news from the Republic affected the market and prices reacted, but nevertheless were higher on balance. Buenos Ayres Great Southern ordinary, for example, was 10½ (compared with 10½ a week ago), the 5 per cent. preference 24½, and the 4 per cent. debentures 64. Central Uruguay second debentures have been active around 30, and Antofagasta ordinary moved higher at 11. Canadian Pacifics rose afresh from 25½ to 26½.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffics to date			Shares or Stock	Prices					
			Total this year	Inc. or dec. compared with 1943, 4		Totals		Increase or decrease		Highest 1945	Lowest 1945	Jan. 15 1946			
						1945/6	1944/5								
South & Central America	Antofagasta ...	834	6.1.46	£ 29,640	+	£ 2,270	1	£ 29,640	£ 27,370	+	£ 2,270	Ord. Stk.	12	8½	10½
	Arg. N.E. ...	753	5.1.46	ps. 313,800	+	ps. 33,200	27	ps. 8,155,300	ps. 7,989,200	+	ps. 166,100	Ord. Stk.	10	5½	6
	Bolivar ...	174	Dec., 1945	5,142	—	803	52	5,245	6,397	—	5,572	6 p.c. Deb.	8½	5½	6½
	Brazil ...	...	...	...	...	...	...	...	...	...	...	Bonds	25	17	28½
	B.A. Pacific ...	2,771	5.1.46	ps. 2,572,000	+	ps. 368,000	27	ps. 57,715,000	ps. 54,541,000	+	ps. 3,174,000	Ord. Stk.	7	5	7
	B.A.G.S. ...	5,080	5.1.46	ps. 3,409,000	—	ps. 1,066,000	27	ps. 86,802,000	ps. 81,506,000	+	ps. 5,296,000	Ord. Stk.	13½	10½	10½
	B.A. Western ...	1,924	5.1.46	ps. 1,382,000	+	ps. 256,000	27	ps. 31,923,000	ps. 30,085,000	+	ps. 1,838,000	Ord. Stk.	12½	9½	10½
	Cent. Argentine ...	3,700	9.1.46	ps. 3,297,600	+	ps. 229,000	27	ps. 82,428,550	ps. 76,772,250	+	ps. 5,656,300	Ord. Stk.	9½	7	7½
	Do. ...	...	...	...	...	...	...	...	...	...	...	Dfd.	5	2½	4
	Cent. Uruguay ...	370	5.1.46	41,507	+	5,798	27	1,015,373	884,972	+	130,401	Ord. Stk.	7½	4	7½
	Costa Rica ...	262	Nov., 1945	26,903	+	13,593	22	155,029	111,223	+	43,806	Stk.	16½	13	15
	Dorada ...	70	Nov., 1945	28,954	—	546	47	330,489	294,943	+	35,546	1 Mt. Deb.	103	102	101½
	Entre Rios ...	808	5.1.46	ps. 485,600	+	ps. 89,300	27	ps. 11,422,200	ps. 10,567,600	+	ps. 854,600	Ord. Stk.	7½	4½	6
	G.W. of Brazil ...	1,030	5.1.46	20,400	+	2,100	1	20,400	22,500	+	2,100	Ord. Stk.	30½	23½	23½
	Inter. Ctl. Amer. ...	794	Nov., 1945	\$636,212	+	\$89,678	47	\$8,130,214	\$6,827,493	+	\$1,302,721	Ord. Stk.	—	—	—
	La Guaira ...	22½	Dec., 1945	5,355	—	1,167	52	74,152	90,117	—	15,965	5 p.c. Deb.	78	70	65½
	Leopoldina ...	1,918	5.1.46	38,456	+	5,217	1	38,456	33,239	+	5,217	Ord. Stk.	4½	3½	3½
	Mexican ...	483	7.1.46	ps. 558,200	—	ps. 100,300	27	ps. 6,892,100	ps. 6,238,100	+	ps. 3,554,000	Ord. Stk.	4	4	1½
	Midland Uruguay ...	319	Nov., 1945	19,085	+	2,235	21	94,098	83,871	+	10,227	Ord. Stk.	—	—	—
	Nitrato ...	382	Dec., 1945	10,093	+	1,737	52	191,819	185,304	+	6,515	Ord. Sh.	75 6	67 6	72 6
	N.W. of Uruguay ...	113	Nov., 1945	5,621	—	463	20	29,012	30,605	—	1,593	—	—	—	—
	Paraguay Cent. ...	274	4.1.46	£ 56,488	—	£ 2,226	27	£ 1,646,109	£ 1,640,546	+	£ 5,563	Pr. Lt. Stk.	79½	77	75½
Peru Corp. ...	1,059	Dec., 1945	145,207	+	12,034	26	849,478	769,298	+	80,180	Ord. Stk.	10½	7½	8	
Salvador ...	100	Nov., 1945	c 91,000	+	c 4,000	20	c 467,000	c 410,000	+	c 57,000	Ord. Stk.	60½	50½	55½	
San Paulo ...	153½	...	...	...	...	...	...	...	...	...	Ord. Sh.	17½	10 6	15 3	
Talital ...	156	Dec., 1945	3,200	+	810	26	15,520	15,165	+	355	Ord. Stk.	3	1	2	
United of Havana ...	1,301	5.1.46	42,613	—	8,694	27	1,205,522	1,290,168	—	84,646	Ord. Sh.	3	1	2	
Uruguay Northern ...	73	Nov., 1945	1,660	+	20	21	68,909	56,029	+	12,880	—	—	—	—	
Canada	Canadian National ...	23,569	Nov., 1945	6,861,200	—	534,600	48	79,651,400	80,524,600	—	873,200	Ord. Stk.	24	14½	26½
	Canadian Pacific ...	17,630	7.1.46	1,117,250	—	13,500	1	1,117,250	1,130,750	—	13,500	—	—	—	—
Various	Barsi Light ...	202	Nov., 1945	31,702	+	10,057	33	198,345	186,645	+	11,700	Ord. Stk.	131	123	121
	Beira ...	204	Oct., 1945	70,588	—	7,961	4	70,588	78,549	—	7,961	—	—	—	—
	Egyptian Delta ...	607	30.11.45	21,422	+	976	36	347,935	459,114	—	41,991	Prf. Sh.	10	8½	6½
	Manila ...	...	...	...	...	...	...	...	...	...	B. Deb.	71	55½	67½	
	Mid. of W. Australia ...	277	Nov., 1945	17,065	—	971	20	64,836	101,007	—	19,105	Inc. Deb.	97½	85	85
	Nigeria ...	1,900	27.10.45	69,796	+	9,511	30	1,607,174	1,823,256	—	216,082	—	—	—	—
	Rhodesia ...	2,442	Oct., 1945	516,412	—	1,087	4	516,412	517,499	—	1,087	—	—	—	—
South African ...	13,301	1.12.45	1,092,731	+	49,861	38	35,286,527	31,694,129	+	3,592,398	—	—	—	—	
Victoria ...	4,774	Aug., 1945	1,250,584	—	42,708	—	—	—	—	—	—	—	—	—	

† Receipts are calculated @ 1s. 6d. to the rupee